

The Only Weekly Mining Paper in the Union and Rhodesia.



Handwritten notes: TN, 1, S13, v. 26, pt. 2, no. 1827

# THE South African MINING JOURNAL

WITH WHICH IS INCORPORATED "The South African Mines, Commerce & Industries"

ESTABLISHED 1891

PUBLISHED EVERY SATURDAY

VOL. XXVI., PART II, No. 1827. THE SOUTH AFRICAN MINING JOURNAL. MAR. 3, 1917. [WEEKLY, PRICE 6D]

## LARGE MOTORS

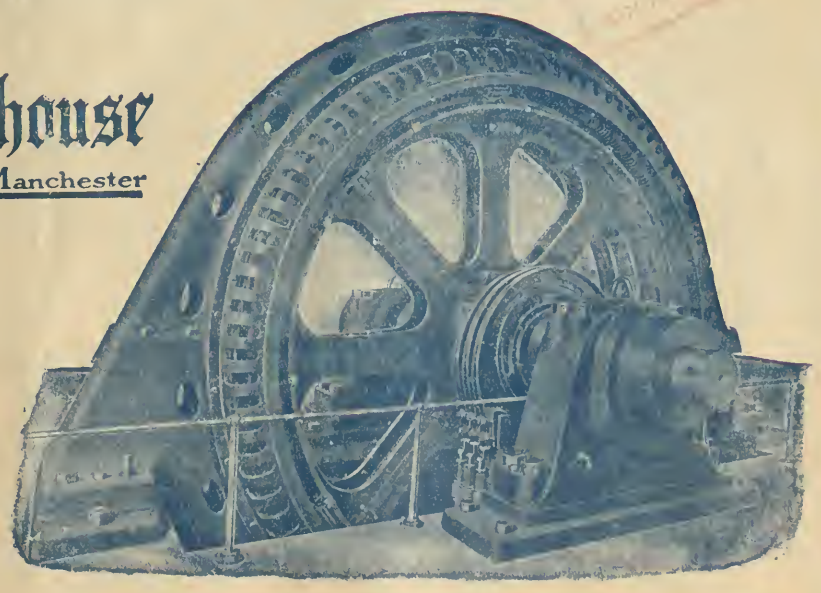
### for mining purposes

When a motor has to perform the arduous duties incident to mining, it is of great importance that it should be of thoroughly safe design and sound manufacture.

Westinghouse motors are running under most adverse conditions all over the world and are giving entire satisfaction.

The British Westinghouse Electric and Mfg. Co., Limited, Consolidated Bldgs., Johannesburg, or Thos. Barlow & Sons, P.O. Box 178, Durban, Natal.

Physical & Applied Sci. Serials



**“INDUSTRY AS USUAL.”**

LIST OF

**Manufacturers & Agents belonging to the British Empire, her Allies & Friends.****HERBERT AINSWORTH,**

Engineer and Merchant, 304 307, The Corner House, Johannesburg, South African Agent for Green's Patent Fuel Economiser, Kennecott Water Softeners, Wood's Colliery Plants and Winches, Hart's Lambeth Cotton Ropes, Canadian Carbide, "S" Brand.

**EDGAR ALLEN & CO., LIMITED,**

5, New Club Buildings, Loveday Street, Johannesburg. Miner's Drill Steel, High Speed Steel, Engineer's and Smith's Tool Steel, Tappet Key and Gib Steel, Manganese and Hard Steel Grizzly Bars, Tube Mill Liner Bars, Skip Wheels, Truck Wheels and Axles, Twist Drills, Shovels, Hammers, Shoes and Dies, Buffers, Railway and Tramway Points and Crossings, Ore Crushers, Tube Mills, Cement Kilns, etc.

**BARTLE & CO., LTD.,**

Loveday House, Johannesburg. 'Phones 3553 4. Sole Agents for Sanderson Bros. & Newbold, Ltd., Sheffield; F. Reddaway & Co., Ltd., Manchester; Henry Pooley & Son, Ltd., Birmingham; John Shaw, Ltd., Sheffield; J. W. Roberts, Ltd., Leeds; Gimson & Co., Ltd., Leicester; T. Lister & Co., Ltd., Brighouse; John Davis & Son, Ltd., Derby; Unity Safety Fuse Co., Scorrier; F. Bartle & Sons, Carn Brea; and many other well-known British Manufacturers.

**BATES, MASON & CO., LTD.,**

Machinery Merchants, Box 1895, 'Phone 2307, Government Square, Johannesburg, have large stocks of mining machinery, agricultural and building material, etc., new and second-hand, for sale cheap. Buyers of all classes of machinery and buildings for cash.

**BRITISH GENERAL ELECTRIC CO., LTD.,**

Corner Loveday and Anderson Streets, Johannesburg. Electrical Plant and Supplies of all descriptions. 'Phones 4242-4243; Telegrams, "Current"; Box 2106. Branches at Capetown, Durban, Bulawayo, etc.

**HUBERT DAVIES & CO.,**

Electrical and Mechanical Engineers, for all kinds of Electrical Machinery and Supplies. Johannesburg, Durban, Capetown and Salisbury (Rhodesia).

**The Denver Rock Drill & Machinery Co., Ltd.**

'Phone 1426. Box No. 2367. 1-5, Royal Chambers, Johannesburg. "WAUGH" Air Feed Hammer Drills, for all classes of mining; DENVER Brand of Rubber Conveyor Belting; Rock Drill and Water Hoses, Red Sheet Packing, Grey Insertion; "DUXBAK" Waterproof Leather Belting and Waterproof Cement; "CLARK" Air Meters. Large Stocks always on hand.

**FRASER & CHALMERS, LTD.,**

Corner House, Johannesburg; also representing Holman Bros., T. and W. Smith, Ltd.; Tanguies, Ltd.; G. and J. Weir, Ltd.; and many other British agencies.

**HADFIELDS LTD.**

(Incorporated in England.)

46-47, Cullinan Buildings. 'Phone 5900, Johannesburg. Cast Steel Gyration and Jaw Crushers and Crusher Spares, Wheels and Axles, Pedestals, Rollers, Pulleys and General Steel Castings.

**HARVEY & RUSSELL, LTD.,**

96, Frederick Street, Box 2043, Telephone 4004, Johannesburg; Power Transmission Machinery, Dewrance's Steam Fittings and White Metals, Machine Tools, "Rigby" Steam Hammers, Steel Construction Work, "Vislok" Patent Lock Nuts.

**HOSKEN & CO., WM.,**

Mining Material Merchants, Hosken's Buildings. P.O. Box 667, 'Phones 4113-9. Telegrams: "Hosken," Johannesburg. Agents for "Hydromax" New Water Hammer Drills. The fastest rock drill in the world.

**ROBERT HUDSON & SONS, LIMITED,**

Works: Gildersceme Foundry, near Leeds 834, Cullinan Buildings, 'Phone No 1731. Telegraphic Address: "Raletrux." Manufacturers of all classes of Light Railway Material for Mining and Contractor use. Rails in all weights per yard. Switches and Crossings, Standard Trucks of various capacities kept in stock.

**INGERSOLL-RAND CO.,**

Exploration Building, Johannesburg. Air Compressors, Rock Drills, Hose, Steel, Pneumatic Tools, Cameron Pumps, Leyner Drill Sharpeners, Davis Calyx Coil Drills.

**PHOENIX FOUNDRY,**

Iron and Brass Founders, General Engineers and Blacksmiths. Office and Works: Hay Street, Ophirton, P.O. Box 3031, Johannesburg. 'Phone 1641. Sole Agents for Carntyno Steel Castings Co., Glasgow. Stocks of Tappets, Skip Wheels, Heads, etc. Casting Specialities: Pipe Fittings, White Iron Pump Spares and Tube Mill Liners.

**REUNERT & LENZ, LTD.,**

Consolidated Building (3rd Floor), Johannesburg; P.O. Box 92; Telephone No. 3061. Sole Agents for North British Locomotive Co., Ltd.; Leeds Forge Co., Ltd.; Babcock and Wilcox, Ltd.; Bellias and Morcom, Ltd.; Davidson and Co., Ltd.; Frank Pearn and Co., Ltd.; "Atlas Rock Drills," John Stephens and Son, Ltd.; E. and W. Lucas, Ltd.; Sir Joseph Jonas, Colver and Co., Ltd.; John Spencer and Sons, Ltd.; and many other high-class British Manufacturers.

**SANDYCROFT, LIMITED,**

Works: Chester, England, Offices, 63-64, Standard Bank Chambers, Telephone No. 360, P.O. Box No. 1976, Johannesburg. Suppliers of Stamp Battery Requisites of all descriptions, Belting, Winches, Ropes, etc.

**FATTI'S S.A. MACARONI FACTORY.**

Fatti's Macaroni Factories are the suppliers of the much-appreciated Soup-Macaroni for the Mine Boys. They inform the Mine and Compound Managers that in spite of the present high cost of the flour their price for this healthy and very nourishing food has been kept at the pre-war level, thus making MACARONI the MOST ECONOMICAL food of the present time. For orders and quotation please apply to Box 1139, or 'Phone 962, Johannesburg.—L. Fatti and Co., Ltd.

**S. SYKES & CO., LTD.**

Southern Life Buildings, Johannesburg. Telephone No. 2190. P.O. Box 2303. Telegrams: "Psyche." Sole Agents for Robey & Co., Ltd., Crossley Bros., Ltd., E. R. & F. Turner, Ltd., Worthington Pump Co., Ltd., C. A. Parsons & Co., Ltd., Crompton & Co., Ltd., and Reyrolle & Co., Ltd.

**E. W. TARRY & Co., Ltd., Austral Iron Works,**

Corner of Anderson and End Streets, Box 1098. 'Phones 149 and 626, Johannesburg. Iron and Brass Founders and General Engineers. Machine Cut Gears in Raw Hide and any Metal a speciality, and in Cast Iron up to 18 feet diameter. Sole Manufacturers and Agents for Tregaskis Patent Drill Heating Furnace.

**WADE & DORMAN, LTD.,**

Box 2997; Telephone 1460, Johannesburg. Structural Steel Work of all kinds. Large Stocks of Joists, Channels, Angles, Tees, Plates, Chequered Plates, etc. Agents for British Steel Piling Co. Stockyard and Works: 217, Main Street.

**C. F. WIENAND,**

Commercial Exchange Buildings, Johannesburg; 'Phone 3. Sole Agent for Toledo Steels of all classes, Butterley Iron, Barwell's Bolts, Scott's Ropes, Mine Lubricants, Ltd., Stelastic Tyres. All highest quality.

# PROFESSIONAL DIRECTORY.

## LITTLEJOHN & WHITBY,

ASSAYERS TO THE  
AFRICAN BANKING CORPORATION,  
NATIONAL AND NATAL BANKS.

CONSULTING ANALYTICAL  
CHEMISTS AND METALLURGISTS,

P.O. Box 849. 'Phone 1633.

Office and Laboratories:

24, SIMMONDS STREET, JOHANNESBURG.

Assays and analyses of all Minerals, Drugs, Foods, Water,  
Milk, Oils, etc., undertaken.

Experiments conducted. Reports made as to the treatment  
of any class of Ore.

## J. GOULDIE, C. & M.E., M.I.M.E., CONSULTING ENGINEER.

*Late Manager to the De Beers and other Diamond Mines.  
30 years practical experience in Diamond, Gold, Coal, and  
Metalliferous Mining in South Africa, and holder of Mine  
Manager's Certificate (First Class).*

Mines and Mineral Propositions Inspected and  
Reported Upon.

Office: 62, Standard Bank Chambers, Commissioner St.,  
JOHANNESBURG.

Phone 2225. Telegraphic Address: "Edloug, Johannesburg."

Code: Imperial Combination and A.B.C. (5th edition).

Reference: The National Bank of South Africa, Limited, here  
and in London.

## PATENTS AND TRADE MARKS.

### D. M. KISCH & CO., (C. H. M. KISCH—A. L. SPOOR).

ESTABLISHED 1874.

Members Chartered Inst. of Patent Agents, London.

### COLONIAL AND FOREIGN PATENT AGENTS.

*The Firm undertake the Patenting of Inventions, and the  
Registration of Trade Marks throughout the world; the  
Preparation, Revision or Amendment of Specifications  
and Drawings; reporting on Validity and Infringements;  
obtaining copies of Specifications and Drawings of  
Patents granted; Searches through the Patent Office  
Records; the conduct of Oppositions, and all other  
matters relating to Patents and Trade Marks.*

No. 16 to 19a, NATIONAL MUTUAL BUILDING,  
Corner of Rissik and Market Streets.

P.O. Box 668. Telephone No. 774.

## J. E. MILLS DAVIES, CONSULTING MINING ENGINEER.

180, Stock Exchange Buildings, Johannesburg.

P.O. BOX 418. TEL. ADD.: "MINING JOURNAL." TELEPHONE 918

When communicating with Advertisers

• kindly mention the

SOUTH AFRICAN MINING JOURNAL.

## G. A. WATSON, EXPERT COMMERCIAL PHOTOGRAPHER,

17, Hosken's Buildings, Cor. Rissik & Fox Streets,  
Box 667, JOHANNESBURG.

Photographs of all the Leading Mines on the Rand. Enlargements a Speciality. | Our Framing Department has all the latest Mouldings. Machinery a Speciality.

Printing, Bookbinding, Account Books, Tracing Cloth, Transfer Paper,  
Drawing Paper, Ferro Prussiate, Ferro Gallic, Indian Inks, Rubber Stamps,  
Stationery of all descriptions, Draughtsman's and Surveyor's Requisites.

## C. E. FOLKEY, Stationer & Printer.

Ask for a Quotation for Stationery or Printing.

7, MARSHALL SQUARE BLDGS., opposite main entrance Stock Exchange  
TELEPHONE 2065.

# VENUS PENCILS



Made in 17 Grades, 6 B to 9 H.  
PRICE 6d. EACH.

Not only is the VENUS PENCIL preferred by technical and professional men whose requirements are usually severe and exacting, but because of its splendid materials and the careful workmanship, it is the choice of all who want the best there is in PENCILS.

OF ALL STATIONERS.



Cable:  
"McKECHNIE,  
WIDNES."

## McKECHNIE BROTHERS, LIMITED.

SMELTING WORKS: WIDNES, ENGLAND.

LONDON OFFICE: 11, LOMBARD STREET, S.E.

BIRMINGHAM, NEWCASTLE, MANCHESTER, LEEDS AND BRISTOL.

BUYERS OF

### COMPLEX ORES

Which contain COPPER.

COPPER-TIN ORES. COPPER-LEAD ORES. COPPER-ZINC ORES.

Residues, Mattes, Concentrates, Precipitates.

# Engineering Works and Foundries.

ESTABLISHED 1888.

## Wright, Boag & Co.

**ENGINEERS  
AND  
FOUNDERS.**

Offices: Frederick Street.

Works: Marshall's & City and Suburban Townships.

Telephones: 1056 and 1057. P.O. Box 545. Tel. Add.: "SWIVEL."

**JOHANNESBURG.**

P.O. Box 3960.

Telephone No. 877

## W. H. BATTEN (Late BATTEN & EDGAR)

**The RAND BOILER, TANK,  
:: and IRON WORKS. ::**

Trucks, Steel Cyanide Tanks, Chimneys, Cones, Skips, and all Mining Plate Work a speciality.

Office and Works: Albert, Gold, Durban and Nugget Streets, City and Suburban.

## New Industries in South Africa.

**THE VERDITE MINES** yield Gold, Nickel, Greenstone, French Chalk, Talc and Soapstone, from which are produced:—

Talcum Powders, Boilermakers' and Engineers' Pencils (for marking iron and steel), Crayons, the beautiful "Verdite" Greenstone for Building Decoration, Ornamental Work and Jewellery.

The Greenstone is unique, is found in no other part of the world, and there is no other Gold Mine in existence which produces so many useful by-products.

From a small beginning and accidental discovery this is rapidly growing to be one of the leading industries of South Africa.

## ENGINEERS AND FOUNDERS.

**Austral  
Iron  
Works.**

Special Metal for wearing plates for Tube Mills and Centrifugal Pumps.

Machine Cut Gears in Raw Hide or any Metal a Speciality.

And in Cast Iron up to 18 feet diameter.

Sole Agents and Manufacturers of Tregaskis' Drill Heating Furnace.

## E. W. TARRY & Co., LTD.

Anderson and End Streets,

**JOHANNESBURG.**

'Phone 149. Box 1098. Tel. Add.: Austral."

## SOUTH AFRICAN WELDING AND LIGHTING GAS WORKS.

P.O. Box 5185. Tel. No. 2046.

LESSEES FROM

**SOUTH AFRICAN DISSOLVED ACETYLENE, L'd.**

Welding Shop: 29, Von Weilligh St., Johannesburg.

Gas Works:

No. 4, Thornton's Sheds, Van Beek St., Doornfontein.

Welding by High and Low Pressure Systems.

Constructional and Repair Work in Shop or at Mine.

Boiler Work and Plate-Cutting a Speciality.

All classes of Cast or Steel Fittings made up to order.

## JAMES SMITH,

Surface and  
Underground.

Diamond Drilling  
Contractor.

P.O. Box 3180, JOHANNESBURG.

When communicating with Advertisers  
kindly mention the

**SOUTH AFRICAN MINING JOURNAL.**

P.O. Box 11, Denver. Phone 154, Central.

## DENVER ENGINEERING WORKS.

Chisholm Stevenson & Co.

**Main Reef Road, Denver.**

ENGINEERS, BLACKSMITHS,  
IRON & BRASS FOUNDERS.

Makers of Haulage Gears, Tanks, Trucks, Cones, Cages,  
and Mining Machinery of all descriptions.

ENQUIRIES INVITED. ESTIMATES GIVEN.

## JAMES WEST & CO.

CERTIFICATED MINING AND MECHANICAL ENGINEERS,  
GEOLOGISTS AND METALLURGISTS.

Consulting Specialists in all branches of Diamond Mining,  
Washing and Recovery.

Formerly of De Beers Consolidated Mines, Dutoitspan, Wesselton Mines,  
Koffyfontein Mines, Premier (Transvaal) Diamond Mining Co., New Eland  
Diamonds, Ltd., etc., etc.

186, Stock Exchange,  
JOHANNESBURG.

Box 4253. Telephone 3659.

## R. B. GREER & CO.

Maxwell Buildings,  
20, Harrison Street,  
JOHANNESBURG.

P.O. Box 2913. Telephone 286.

All classes of  
Wrought Iron Tubes and Fittings for  
Gas, Steam and Water.

Stock of Surplus Second-Hand Iron and  
Timber for Sale.

On View at our New Store --  
MARKET AND BEREA STREETS.

The  
S.A. Mining Journal  
IS PUBLISHED WEEKLY

PRICE  
**6d.**

**Annual Subscription Rates:**

Local Delivery (Town Only)	-	-	£1 6s. 0d.
South Africa (Postal)	-	-	£1 10s. 0d.
Oversea	-	-	£2 0s. 0d.

**Payable in Advance.**

— AS A —  
COMMERCIAL TRAVELLER  
— THE —

## S.A. Mining Journal

Is HARD TO BEAT.

Advertisement Rates on Application.

# PRICE'S Candles

First and Best  
for  
Mining  
and  
General Use.

Made in  
South Africa.

PRICE'S (South Africa) Limited,  
London, Cape Town, Johannesburg.

# CANADIAN CARBIDE.

Why you should use "S" Brand Canadian Carbide.

- I. Because it is the Best Carbide.
- II. It is made in the British Empire.
- III. The price is no more than Foreign Carbide.



THEREFORE

**BUY "S" BRAND CANADIAN CARBIDE.**

SOLE AGENT:

**HERBERT AINSWORTH,**

3rd FLOOR, CORNER HOUSE, JOHANNESBURG.

TELEPHONE Nos. 356 & 1308.

Telegrams: "AINSCO."

P.O. Boxes 1553 & 1671.

Works Phone  
2484.

**CHRISTOPHER & SHILLITO,**

P.O. Box  
3273.

**ENGINEERS AND IRON FOUNDERS,**

C/o Miller and Eighth Streets.

New Doornfontein, JOHANNESBURG.

SPECIALITIES.---Steelwork, Castings, Trucks, Coal Tubs, Forgings,  
Tanks, Pump Spares, Mill Spares, Shoes and Dies  
(Old Park Forge, Sheffield, England).

TOWN OFFICE: General Mining Buildings, Marshall Square.

P.O. Box 3273.

Phone 3484.

Sole Partners: WILLIAM ALFRED CHRISTOPHER.  
HUNTLEY SHILLITO.

THE SOUTH AFRICAN  
**Mining Journal,**

WITH WHICH IS INCORPORATED

South African Mines, Commerce and Industries.

ESTABLISHED 1891.

VOL. XXVI., PART II.] MARCH 3, 1917. [No. 1327.

**HEAD OFFICE:** 176-180, Stock Exchange Buildings, Fox Street (2nd Floor), Johannesburg, Union of South Africa.

Telephone **913**. P.O. Boxes **963** and **418**.

Cable and Telegraphic Address: "**MINING JOURNAL.**"

**AGENTS FOR GREAT BRITAIN:** Argus South African Newspapers, Ltd., Byron House, 82-85, Fleet Street, London, E.C.

**AMERICA:** Gotham Advertising Co., 95, Liberty Street, New York.

**ANNUAL SUBSCRIPTION RATES:** Oversea, £2; Union of South Africa and Rhodesia, £1 10s.; Local Delivery (Town only), £1 6s.

Copies of this journal are obtainable at all Branches and Agencies of the Central News Agency, Ltd., at all News Agents and Railway Bookstalls throughout South Africa, and at the London Agency as above.

**NOTICE.**—The postage of this issue of the *S.A. Mining Journal* is: South Africa, 1d. All other parts, 1½d.

CONTENTS.	PAGE
Notes and News ... ..	1
Topics of the Week:	
The Chamber of Mines and the Men ... ..	3
The Diamond Position ... ..	3
The Aliwal North Diamond "Rush" ... ..	4
The Reform of the Mines Department ... ..	5
How to Improve our Industrial Position ... ..	6
The Organization of Mine Safety and Sanitation—II... ..	7
Safety First: Some Practical Points ... ..	8
Chamber of Mines and Mine Workers' Union ... ..	9
Correspondence and Discussion: "The Sailors' Day, March 10th"; "South African Oil Shale" ... ..	10
Rhodesian Section:	
Rhodesian Mineral Output for January ... ..	12
Engineering Notes and News:	
The "Lesser" Inventions ... ..	15
The Week in the Mining Material and Engineering Trades ... ..	17
Company Meetings: Premier Diamonds ... ..	19

**Notes and News**

It is understood that immediate effect is to be given to the recommendations of the Industrial Research Committee for the establishment of a Government Industrial Research Department for the Union; and that funds will be available for the carrying out of the work of that department. It is understood, further, that a Committee is being nominated in conjunction with the new department.

\* \* \* \*

The results of the 1916 competitions of the Rand Mutual Assurance Company in connection with the reduction of mining accidents are:—Competition No. 1: Best absolute record. There were two mines with a nil return, namely, the

New Primrose and the New Unified. In terms of the rules the New Primrose, having the largest number of underground employees, is awarded the first prize. The underground officials whose employment conforms with the rules of the competition will each receive a silver memento (value £5) suitably inscribed. Competition No. 2: Highest proportionate improvement on the mine's own rate for the previous three years. The winners are:—Class A.: Ginsberg, 135 marks. Class B.: Luipaardsvlei Estate, 99.9 marks. Class C.: Witwatersrand Deep, 143 marks. Each of the underground officials in the above mines whose employment conforms as to the rules of the competition will receive a cash bonus of £10. The floating trophy goes to Witwatersrand Deep, with the highest number of marks in the three classes. The question of special additional prizes is being considered, and an announcement will be made later.

\* \* \* \*

The Consolidated Mines Selection Co., Ltd., write:—The following cable has been received by this morning from our London office, and is transmitted to you for information and favour of publication: "Board of directors recommend dividend 22½ per cent. payable at date of general meeting, less tax. Place £15,000 to reserve."

\* \* \* \*

It is proposed to hold the annual competitions for the shields presented by the Chemical, Metallurgical and Mining Society and the Transvaal Coal Owners' Association for surface workers and underground workers on metalliferous mines and for colliery workers, on the 15th and 22nd and 29th April, respectively. Copies of the conditions, which are on the same lines as formerly, will be obtainable from the Hon. Secretary, Mr. Fred. Rowland, P.O. Box 1183, Johannesburg, in the course of a few days.

\* \* \* \*

The secretary of Springs Mines notifies that hoisting from the mine started on the 26th of February. The trial crushing has been on dump ore only, and the usual absorption of gold by plant is taking place. The first declaration of output will be made at the end of March.

\* \* \* \*

The report of the Johannesburg Goldfields, Ltd., for the twelve months ended 30th September shows that the gross revenue derived from dividends and interest on investments, rents and transfer fees amounted to £3,293, an increase as compared with that of last year of £67, while the expenditure amounted to £1,133, an increase of £286, due to the higher rate of income tax now prevailing. The year's profit of £2,161, added to £14,649 brought forward from the previous year, makes a total of £16,810, which it is proposed again to carry forward. Negotiations

have been in progress which have resulted in a contract being entered into for the sale of approximately 100 acres, forming the lower lying portion of the Freehold Estate Rietfontein, at the price of £12 10s. per acre in freehold. At the date of the accounts the sale had not been completed by an assignment of the property, although £1,000 had been received to bind the contract and in part payment of the purchase money. Under the terms of the contract the purchaser has the option to pay the balance of the purchase money in instalments over a period of five years, the amount outstanding for the time being to bear interest at the rate of 6 per cent. per annum. The contract further provides that the Blue Gum Plantations shall be kept in good order by the purchaser for a period of ten years, by which time presumably they will be again ready for cutting. The growing timber in the meantime is to remain the property and be at the disposal of the company. The value of the company's investments shows a slight improvement.

\* \* \* \*

We have received from the Government Printing Works the geological map of the Witwatersrand Gold Field, by Dr. E. T. Mellor, on a scale 5,000 feet to the inch; size 7 feet by 2 feet 6 inches, and printed in 19 colours.

**Dr. Mellor's  
Map.**

The map, which is accompanied by explanatory pamphlet, also shows the boundaries of the majority of mining properties and the location of the principal shafts and boreholes. Several complaints have reached us in regard to the price of the map, which is 30s. unmounted. It is contended that the public having already paid the cost of the work, should not be asked so high a figure. It is noteworthy that in the accompanying memorandum Dr. Mellor writes as regards the Rietfontein Reefs as follows:—

"The correlation of the beds associated with the Rietfontein reefs has been a matter of considerable difference of opinion. They have been frequently regarded as forming part of the Lower Witwatersrand System since they apparently lie below easily recognisable and characteristic beds of that part of the Witwatersrand System which occur immediately to the south, and this view has been the chief reason for the persistent prospecting for the continuation of the Rietfontein reefs in the Lower Witwatersrand beds all along the Rand. Another view, based chiefly on the similarity of some of the coarser conglomerates associated with the Rietfontein Series to the conglomerates of Langerman's Kop, is that the beds occurring at Rietfontein are of Elsburg age. These coarse conglomerates (known as the South Rietfontein Series) are, however, much more like the Kimberley Reefs in type, and in the writer's opinion belong to that group of reefs. This correlation is greatly strengthened by the fact, either not generally known or universally overlooked, that the reefs in question are underlain by a considerable thickness of shales of the Kimberley type, below which comes a series of quartzites and conglomerates closely comparable to the Main Bird Series of the Rand proper. The lowest of the reefs formerly worked at Rietfontein ("North Reef") lies upon a "slate" footwall in the same way as does the principal reef of the East Rand (the Main Reef Leader), and is almost certain to be correlated with it. The principal "pay-reef" lies at a somewhat higher horizon. This outlying fragment of Upper Witwatersrand beds in which the Rietfontein Mine is situated is faulted on its southern side against a mass of granite which completely cuts off the Rietfontein reefs on that side. On account of this circumstance the name of Rietfontein Fault was given to the continuous line of fracture which has now been followed along the whole length of the Rand."

\* \* \* \*

The Manchester and District Decimal Association has issued a preliminary circular focussing attention upon the considerations which have induced it to advocate the reform of British coinage and the adoption

of the metric system of weights and measures. It is held that much of the new plant which has been so generally installed for the manufacture of munitions of war, and thousands of our workpeople, may be thrown idle at the end of the war unless we now remove all obstacles that would otherwise hinder the enormous expansion of our export trade that will be imperatively required to ensure continuity of employment and the maintenance of our national economic stability, amongst the chief of which is our archaic collection of systems of coinage and measurement. The Lord Mayor of Manchester is the president of the Association, and in the

list of vice presidents and Council there are numerous representatives of manufacturing firms of world wide reputation, including electrical firms such as Messrs. Mather & Platt, Ltd., Vickers, Ltd., W. T. Glover & Co., Ltd., the British Westinghouse Co., Ltd., Electromotors, Ltd., Ferranti, Ltd., and the Lancashire Dynamo and Motor Co., Ltd., as well as mechanical engineers, textile manufacturers, shipping merchants, etc. Pointing out that the British Empire, Siam, and Persia are the only nations that have not adopted a decimal system of coinage, and that all our financial transactions are based on a rate per cent., which indicates the fundamental necessity of a decimal system in business, the circular advocates the adoption of the system of coinage which we have also recommended—viz., the decimal subdivision of the sovereign, without altering the existing values of our gold and silver coins. The florin would be the standard coin, divided into 100 cents instead of 96 farthings. The bronze coinage would be depreciated 4 per cent., but, as we have pointed out, at a time when standards of value have been so violently disturbed, a reduction of 1 per cent. in the purchasing power of the penny would be unfelt, and the present is obviously a most opportune moment for revising our coinage. The Association emphasises the fact, on the importance of which we have laid stress, that according to the foregoing proposal the pound sterling is retained. The adoption of the metric system of weights and measures is similarly regarded as certain to bring benefits far outweighing any temporary difficulties and inconveniences met with during the period of transition, and the Association expresses the intention of urging the Government to take action on these lines at an early date. An appeal is made for support, the subscription for members being one guinea per annum and for associate members 5s. Mr. Fred Hilton, of 55, Market Street, Manchester, is acting secretary.

\* \* \* \*

The following is a copy of a statement issued by the Trade Industries and Industry Committee of the Royal Colonial Institute:—

"For some time past the Trade and Industry Committee of the Royal Colonial Institute has been engaged upon the work of encouraging the establishment of new industries in the British Empire, with a view to giving a measure of confidence and security to capital to be embarked therein, as well as assisting the expansion of existing industries. As a result of a resolution, the Committee has been in communication with the Governments and Chambers of Commerce of the Dominions and Colonies with a view to urging the necessity of making it obligatory on all Government and municipal bodies to purchase Empire-made goods and to place all contracts as far as possible with British firms. Such action, in the opinion of the Committee, would prove a strong factor in stimulating the establishment of new, and the growth of existing, industries, as well as consolidating inter-Empire trade. In response to the communication sent by the Trade and Industry Committee on the subject, replies have been received from 28 Governments and 21 Chambers of Commerce and Boards of Trade, which go to prove that the Empire is united in the desire to assist and encourage Empire trade and to take such action as may be deemed appropriate and feasible. There is naturally divergence of views as to the methods to be adopted for attaining the object in view, mainly on account of the various systems of government which exist in the British Empire, but it is satisfactory to find that the Crown Colonies and Colonies not possessing responsible government are unanimous in their desire to co-operate in carrying out the principle embodied in the communication of the Committee. As regards the self-governing Dominions, there is a general desire to comply with the terms of the resolution, and to take such steps as will ensure unity of action in the future. The Chamber of Commerce of Sydney affirms the principle that all Government Departments, Municipalities, and other public bodies spending public money, should purchase Empire-made goods and place all contracts with British firms where possible. The Chamber of Commerce of Melbourne states that the principle embodied in the resolution is already largely in force in the Commonwealth, and that the Chambers of Commerce throughout Australia have already taken steps to carry out the principle embodied therein. As regards South Africa, the resolution was adopted at a meeting of the Association of Chambers of Commerce of South Africa in Capetown on September 12 last. The Chambers of Commerce in India have taken active steps in connection with trade after the war, and have formulated a series of suggestions for the Empire as a whole. They strongly advocate the extension of the system, by which Government Departments and local authorities give preference to British goods, and that local authorities should only use other than British goods if actually forced to do so by considerable advantage in favour of such foreign goods. The replies are, on the whole, of a very satisfactory character, and may be seen in the Trade and Industry Department of the Royal Colonial Institute, Northumberland Avenue, W.C."



## TOPICS OF THE WEEK.

### THE CHAMBER OF MINES AND THE MEN

THE Mine Workers' Union has issued to the papers the reply of the Chamber of Mines to its latest demands. The statement, printed in full elsewhere in this issue, sets out in detail the latest concessions to the mine employees and the conditions under which they are offered. It will be seen that the spirit that animates the offers from the Chamber continues to be most conciliatory. By way of introduction, it is mentioned that the matters discussed at the conference were as follows:—Employment of non-union men; standing joint conciliation committee; the "colour bar"; working hours; standard rates of pay; restriction on the number of machines and number of natives per white supervisor; and reciprocity between benefit societies. The Executive Committee of the Chamber says that it has carefully considered the various requests put forward at the conference by the representatives of the Union, and makes the following statement in regard to non-union men, a question which has lately been prominent: "This matter was brought forward more particularly in connection with the recent strike at the Meyer and Charlton mine, where some 40 underground employees refused to work unless two non-union skipmen were discharged or joined the Union. The Chamber at the time pointed out to the Union that the question at issue on the Meyer and Charlton had not even been raised by the Union at its previous discussions with the Chamber, and that while the Chamber had no desire to place the slightest obstruction in the way of employees joining trade unions should they desire to do so, it could not agree to act as a means of coercing employees to join the unions." After going into the question at considerable length, the Chamber announces that, "subject to satisfactory alterations being made in the Constitution of the Union the Chamber will recommend to its members that the union subscriptions of those employees who authorise it should be deducted from their pay and handed to the union nominated." The Chamber goes on to suggest that a Joint Standing Conciliation Committee, consisting of representatives of the Chamber and representatives of the South African Mine Workers' Union be appointed to discuss such grievances and difficulties as affect members of the union. In regard to the important question of the "colour bar," the Chamber is prepared to recommend to its members that the *status quo* as at present existing on each mine shall be maintained. The questions of working hours and standard rate of pay, which were dealt with at such length in the public statement made by the Chamber little over a month ago, are again mooted; and in regard to the first, at least, further substantial concessions are offered. It appears that the union representatives at the latest conference made an earnest appeal that a trial be made of the "bank to bank" system, with a short shift on Saturday. In reply the Chamber says: "It is the keen desire of the Chamber to arrive at an amicable settlement of the vexed question of hours, and it is accordingly prepared to recommend to its members that as from 1st June, 1917, the underground working week be 48½ hours 'bank to bank,' the length of each shift to be counted from the 'first skip down to the first skip up.'" The Chamber also is prepared to make a reduction of one hour in the Saturday shift with certain qualifications. It adds: "In deciding to agree to make these recommendations the Chamber has been influenced largely by the assurance of the union representatives, that if the reduced hours were agreed to the total output and general efficiency would not be diminished, and that the employers would find the experiment a success. The recommendations are made on the assumption that this assurance will be justified by results, and they are subject to certain mines, not exceeding six in all, being exempted from the proposed arrangements, and also to the union undertaking that it will not again raise the question of working hours within five years." The Chamber goes on to deal in detail with the fixing of a maximum number of machines or a maximum number of natives per white supervisor, and with reciprocity among reef benefit societies; and shows itself

plainly anxious to do everything possible to secure smooth working in regard to those matters. It thinks, however, that disputes arising out of the two first-named can best be settled by the proposed Standing Conciliation Committee. Very important is the following concluding passage: "In offering to agree to the important concessions set out in the above statement the Executive Committee of the Chamber wishes to make it clear that the statement, covering as it does all matters brought forward by the union at the conference, must be taken as a whole, and the proposals accepted or rejected as a whole." We cannot imagine how the men affected can fail to welcome the substantial concessions embodied in the reply of the Chamber, or to recognise the genuine desire evinced by the employers to meet them as far as it is possible to do so.

### THE DIAMOND POSITION.

THE position of the diamond industry formed the basis of some important questions and Ministerial replies in the House of Assembly this week. The public of South Africa interested in the subject—and directly or indirectly it is a large one—should be grateful to Mr. S. B. Joel for the clear exposition of the situation he gave at the Premier meeting. A few months ago at the annual gathering of "Johnnies" shareholders, Mr. Joel threw light on the matter, and showed the wisdom of his now famous "higher the fewer" policy in the sphere of diamond production. Later, the De Beers' annual meeting evoked a more detailed account of the successful adoption of the new policy. Mr. Joel's speech at the Premier meeting, however, was more outspoken and illuminating than either of his previous references to the subject, and it is now plain to the meanest intelligence that the policy of control as in operation is at once best for diamond shareholders, the Government, and the country. Mr. Joel summed up the whole matter with characteristic directness by saying: "What the 1914 conference aimed at but failed to accomplish has now been brought about, and I hope I am not indiscreet when I tell you that those charged with the protection of the diamond industry realised the importance of the policy advocated and we have managed during my present visit to establish an almost complete control of the marketing of diamonds, which will enable the producers to make as much or more profit from the restricted output as they did before the war, and at the same time double the lives of the mines." The marvel is, when we realise the full measure of advantages possessed by the new policy, that it was not adopted long ago. The fault, at any rate, does not appear to have been Mr. Joel's. "The dreams, the hopes, the efforts of the last 30 years," he declared, "have materialised and the future holds out brighter prospects for the diamond industry than it has ever experienced in the past, but don't forget that this is due to control and control only. Remove control and the whole fabric that it has taken nearly a third of a century to rear will come tumbling about our ears involving the extinction of a great and profitable industry to the detriment of thousands interested in and employed by the industry and naturally also to the State. Control has enabled the companies to pay off arrear preference dividends, has poured unexpected hundreds of thousands into the coffers of the State, holds out prospects of deferred dividends within a period not contemplated when operations were resumed, and promises the Government an ever-welcome increase of revenue from diamonds. I have preached control, I have struggled for control, I have brought about control through the co-operation of my colleagues, and it is now incumbent on those interested in the industry and the Government of the Union, who has in its power since the conquest of German South-West Africa, to maintain and complete control. If this policy is pursued I have no misgivings about the future, and we may look forward to a long and prosperous career for the diamond industry." We have no doubt that the logic of facts will not fail to induce the Government to adopt Mr. Joel's advice in respect to the "German" South-West production, and that the object he has striven for will be thus completely attained, despite the ill-informed interference of certain Cape politicians and newspapers, like the *Cape Times*, that ought to know better.

## THE ALI WAL NORTH DIAMOND "RUSH."

The following description of the recent "rush" at the opening of the Aliwal North diamond fields is contributed to the *Cape Times* by a correspondent:—Seen from a distance, Aliwal North is a dark green smear on the green veld, which in its turn is ringed in by ridges of ironstone and spurs of berg and kopje. Coming down to the Frere Bridge from the Orange Free State side, a shimmer of iron roofs breaks out of the dark green of the trees, and the wide avenues of streets run north and south till they are lost in the veld or the river. Ordinarily, the town is a quiet place, where at most two or three taxis ply and groups of farmers gather in the main street to curse the Government and market on Saturday mornings. For ten days past it has looked as one imagines a town would look, chosen to be the central recruiting office for all South Africa. Twenty or thirty taxis raised the dust that lay quiescent between the wheels of the two or three, and men of all stages of civilisation and development, pioneers, poor whites, hard cases, shaven, unshaven, stout, thin, well groomed, tattered, gentle and simple, athletic and weedy, thronged the hotels and boarding-houses and taxed the accommodation of the town beyond its utmost limits. They had come to find diamonds. Fifteen miles west of Aliwal, on the farm of Badspruit, on the south bank of the Orange River, £9,000 worth of diamonds had been taken out of a patch of alluvial gravel only big enough to form a site for a decent store. The outcrop of paying earth rested on part of an old outspan 200 yards from the Sanddrift across the Orange River. The new diggings takes its name from both accidents, and is to be known as the Sanddrift Outspan Alluvial Diggings. The farm whereon the find was made belongs to Petrus Bothma, and the name of the discovering prospector is Mears. The legal notice in the *Government Gazette*, proclaiming the throwing open of the diggings to the public, expired on Monday, the 19th of February, when the formal opening was to be made by the Inspector of Mines. Before dawn all sorts of vehicles, from donkey outfits to the latest motor-cars began to make their way to the place. A cloudy, temperate day, with promise of rain-storms, favoured the journey and clothed the country with a charm of unusual colour and mystery. The green veld, the red dongas, the berg sides strewn with grey boulders, the retiring kloofs, the farmsteads, hard and unlovely in accustomed sunshine, were soft and alluring in the subdued light. Kafir families on trek, squatting by the roadside, looked the very bronze statuary fitted for this half-toned earth. The road, as is usual up-country, added to exercise what is subtracted from reflection, even in a well-sprung car; and some of the less well-sprung found their peace before their destination. Not till the field was within a stone's throw did the crowd and its animated environment break on the eye. Then the assembly of vehicles and conveyances of every description massed on the brow of a low hill, sweeping east and west, and immediately overlooking the proclaimed area, the men and women passing between, the throng of diggers round an isolated motor-car, to which a pole was bound carrying the Union Jack, and from which the final Proclamation was to be read, held eye and ear attentive for a time. Then the eye wandered to the natural setting of the artificial scene. The tops of willow trees flanking either bank of the river appeared as a long, meandering dark green line between the slope in front and the steep rising ground, green with grass and brown with stones, that formed the receding escarpment of the Orange Free State. Soft contours of arable and pasture land were broken by irregular rifts of spruit and donga, and enclosed by serrated ridges or long, low, flat-topped bergs, blue in the background against a stormy, leaden sky. A huddle of tents and wagons sheltered in the thin bush fronting the willows, and left and right, looking in the distance like variegated milestones, a diminishing stream of people watched the land beneath their feet. At 10 o'clock the Inspector of Mines, Mr. Audois, accompanied by Mr. Giddy, the Resident Magistrate of Aliwal North, mounted the isolated motor-car, and the former, in a clear voice, gave out some preliminary instructions and read the Proclamation, which the latter interpreted in Dutch. The

instructions explained the boundaries of the area available for pegging, and the procedure for settling disputes and registering claims. The area comprised some 379 morgen, out of which the owner and discoverer between them were entitled to 60 claims. Each claim measured 30 feet by 30 feet. Four overseers were appointed to stations on different sections of the ground, to whom, in the first instance, appeal was to be made in case of differences of opinion. Final decision rested with the Inspector, who appealed to the assembly to reduce his labours by concession to whomsoever should legitimately be first upon the ground. All present were directed to retire after the reading of the Proclamation to the line indicated by stakes marking the southern boundary of the area. When everything was in order a pistol would be fired by him from the centre of the ground, and for the benefit of those who might not hear the report the flag would at the same time be lowered. The instructions and the Proclamation were listened to attentively by a large crowd of men, amongst whom the dresses of many women made a bright note of colour. When these preliminaries were finished, all retired to the appointed position, the half-dozen mounted police surrounding the car rode away to their stations, the Inspector and Magistrate mounted horses and rode to inspect the owner's and discoverer's claims, and later to view the alignment of the waiting crowd. Seen from the motor-car, it formed an interesting and impressive sight. For a mile and a half, now thicker, now thinner, the stream of hopeful claimants, some of them grey-haired men, some beardless boys, ran evenly along the brow of the gentle hill. The Inspector estimated that 2,000 diggers were there, and another 1,500 of the general public. Eager runners had discarded everything but shirt and shorts and boots and stockings, and crouched ready to spring away with a handful of pegs for marking out their claims. Others recognising the hopelessness of a race with youth, lounged nonchalantly upon the line, content to take what superior energy might leave. At 11 o'clock everything was ready, the Inspector drew to the centre of the ground, the pistol was fired and the flag fell. The line broke in a moment into a press of sprinting and straining men, each aiming to reach first the gravel outcrop adjacent to the patch where the big finds had been made. They swept, as a torrent of soldiers might sweep over the parapet across No Man's Land, with iron or wooden pegs for bayonets, to capture the diamond trenches. There was some fine running over that 300 yards, and in 30 seconds the area was smoking with hammering humanity, running hither and thither on the promising ground like a swarm of ants. The amazing thing, after the first rushing charge, was the fairness and orderliness of it all. There appeared to be no trickery, or sharp practice, or tripping up, or jumping of claims, no obstreperous dispute, nor breaking of heads. Each digger and his friends busied himself in staking his pitch, outlining it with a shallow, spade-scraped channel, or marking it off with cord stretched from peg to peg. Doubtless there were disputes, but none was violent enough to collect a crowd of unoccupied and expectant spectators. The thin forest of pegs appeared a bewildering maze, wherein a comparative sprinkling of men stood sentinel, whilst an aimless multitude wandered in and out and about, looking at names upon the pegs, outlines of claims—some square, some oblong, some triangular, some utterly irregular in shape—stones, gravel, the discoverer's excavations, friends, subjects for snapshots, each other, until suddenly this community of onlookers realised that the "rush" was over, the glamour of the day departed, and set themselves to picnic or to their homes.

### The Lonely January Output.

The following are particulars of the output of gold from the Lonely mine for the past month:—Mill ran 643 hours; crushed 4,850 tons; fine gold recovered, 968·067 ozs., value £4,069 14s. 2d.; slimes treated, 4,850 tons; fine gold recovered, 2,700·666 ozs., value £11,355 1s. 3d.; total recovery of fine gold, 3,668 733 ozs.; total value, £15,424 15s. 5d.; profit, £6,295.

## THE REFORM OF THE MINES DEPARTMENT.

### Some Anomalies Exposed—Possible Economies Indicated—Reducing the Work and Staff.

THE report of the Committee on Retrenchment in Public Expenditure presented to the Union Parliament this week deals as follows with the Mines Department:—A costly, and to a large extent unnecessary, secretariat has been allowed to grow up in this branch of this Ministerial Division. One of the reasons advanced as a justification for the existence of the secretariat is the necessity of the Government Mining Engineer and the Registrar of Mining Titles and Rand Townships residing in Johannesburg, and the Minister residing in Pretoria. This secretariat (exclusive of the Minister's salary) is estimated to cost this year £9,451, of which £8,851 is represented by salaries—the balance of £600 being for transport and incidental expenses. There is, as you are aware, no secretariat between the General Manager of Railways, who resides at Johannesburg, and the Minister of Railways, who resides at Pretoria, nor is there any such body between the Director of Irrigation and the Minister of Lands; nor between the Postmaster-General and the Minister of Posts and Telegraphs; nor between the Chief Conservator of Forests and the Minister of Agriculture; and we cannot see any reason why both the Government Mining Engineer and the Registrar of Mining Titles should not have direct access to the Minister as do the General Manager of Railways, the Director of Irrigation, the Postmaster-General and the Chief Conservator of Forests. The fact that the Government Mining Engineer and the Registrar of Mining Titles live in Johannesburg and the Minister in Pretoria does not justify all this expenditure, since not only are the two towns in telephonic and telegraphic communication, but the train service renders it possible for a resident of Johannesburg to reach Pretoria in less than one and a half hours, and to return in the same time. Nor does the secretariat, in every branch of the department's operations, give inter-departmental satisfaction, for as Mr. Kotzé pointed out to us, the travelling and other claims of his inspectors were submitted by those officers direct to Pretoria, and that he had no idea of the expenditure under that head. From his knowledge of the work performed by his inspectors and the mileage they travelled, Mr. Kotzé would be able to check the claims submitted and exercise some control over their expenditure amounting in round figures to £8,000 a year. To the duties of the Registrar of Mining Titles and Rand Townships should be added those of Chief Mining Commissioner for the Union. That official should have direct access to the Minister, and the salary of the office should be £1,000-£1,200. From the present secretariat at Pretoria there should be transferred to Johannesburg the accountant (£400-£500) and a first grade clerk (£280-£360). They should account to both the Government Mining Engineer and the Chief Mining Commissioner and Registrar of Mining Titles and Rand Townships. They should also keep the staff and leave records of the department. The Geological Survey staff and the Miners' Training School and Boring staffs should be placed under the direction of the Government Mining Engineer. The Industries section, a small section recently transferred from the Customs to the Mines Department, might be placed in any other Ministerial Department, preferably the Interior. The inspection of white labour should be controlled by the Chief Mining Commissioner at Johannesburg, and a first grade clerk would be added to his staff in that connection. The proposals which we have here put forward would, if adopted, eliminate the staff of the secretarial branch of the Mines Department, excepting the accountant (£400-£500), and the first grade clerk on accounts and staff work (£280-£360), and one first grade clerk for the White Labour section (£280-£360), who would be transferred to the Johannesburg office. There is no necessity for three mining commissioners on the Witwatersrand. The work could be combined and placed under one mining commissioner, with a salary of £700 to £800, with detached clerks stationed at Boksburg and Krugersdorp.

This change which will, we think, make for greater efficiency, would also effect a saving of at least £1,200 per annum, exclusive of travelling and local allowances. The Gold Law Act No. 35 of 1908 seems to restrict unnecessarily the functions of the mining commissioners, and we suggest that Sections 23, 59, 69, 70, 71, 72, 73, 74, 76, 79 and 99 of that law be so amended as to make these sections uniform by vesting summary authority in the mining commissioner, eliminating the necessity for ministerial confirmation of the action of the mining commissioners, but retaining to applicants the right of appeal to the Minister in each case, as is done in other parts of the law, *e.g.*, Sections 40, 58 and 68. The principle underlying the requirement of confirmation of certain acts is intended as a safeguard to the public against arbitrary acts of a mining commissioner, but if the right of appeal is given the same purpose will be attained. It is anticipated that if the Act is so amended the appeals would not amount to 5 per cent. of the applications, and by leaving to the responsible officers on the spot the decision of purely local questions the Minister and the department generally would be relieved of a great deal of work. The Government Mining Engineer has drawn our attention to the Mines and Works Act and the Explosives Act, and pointed out that under the former measure the Government of the Union—and it is the only Government that he is aware of which performs the function—has to see to the inspection of all boilers in the Union. The duty thus imposed on the Government necessitates an expenditure of £12,000 per annum in inspectors' salaries and travelling expenses. There are some six thousand boilers in the Union to be inspected, and Mr. Kotzé is strongly of opinion, and we wish to add that we quite concur with him, that the Act should be so amended as to impose a charge averaging £2 on the owner of each boiler inspected under the provisions of the Act, and that every boiler should be inspected once a year. This fee would only just defray the cost of the inspection. As regards the inspection of explosives it is quite impossible for the existing staff to inspect the numerous small magazines throughout the Union as well as the explosives factories and larger magazines, and it is suggested that to the police might be entrusted the inspection of the small magazines. In that case it will be possible to dispense with the services of an Assistant Inspector of Explosives (£440). Under the heading J.I. in the estimates of expenditure for 1916-17, "Assistance for district mining development" appear two items of £1,000 each for (a) Construction and repair of drifts and roads, and (b) General assistance—advances, purchase and hire of plant. We submit that expenditure on such items (although sanctioned by Transvaal law), does not fall within the proper functions of the Government. We recognise that of late years this sub-vote has been very considerably reduced, but we are of opinion that the vote for these two items should be deleted. The Rand Water Board's Extended Powers Ordinance, No. 48 of 1904, Section 60, requires that the Department of Mines during the month of December in each year to forward to the Secretary of the Board a list of all claims, claim areas or *mijnpachten* situate within the limits of supply, giving the name and address of every such claimholder, etc., as they appear in the records of the Registrar of Mining Rights, the number of each claim, etc., and the name of the farm on which the same is situate. These lists are very lengthy, and variably extend to about sixty pages or more of brief paper. They involve, moreover, careful preparation in each of the three mining commissioner's offices, and a final check has to be applied in the office of the Registrar of Mining Rights, where the completed lists are typed. These lists no longer serve a practical purpose. Legislation subsequent to 1904 affecting affairs of the Rand Water Board has provided other means of arriving at the assessment, and we think that the section quoted could with advantage be repealed, and the labour now employed in the preparation of this elaborate return saved.

## HOW TO IMPROVE OUR INDUSTRIAL POSITION.

### Scientific Research, Patents, Transport, etc.

IN their very informative and interesting annual report the Employers' Parliamentary Association, of which Sir Charles Macara is President, embody the special report of the Sub-Committee to the Advisory Committee to the Board of Trade "with respect to the measures for securing the position after the war of certain branches of British industry." We give below these recommendations, since they have an obvious lesson also for South Africa:—

#### SCIENTIFIC INDUSTRIAL RESEARCH.

The recommendation of the report of the Advisory Committee under this head might be summarised as follows:—(a) That larger funds should be placed at the disposal of the new Committee of the Privy Council, and also of the Board of Education, for the promotion of scientific and industrial research and training; (b) that the Universities should be encouraged to assist neighbouring manufacturers, either through trade or other associations, in research work; (c) that an authoritative record of research authorities should be established, under Governmental supervision, for the use of manufacturers only. It may be remembered that the last annual report treated at some length on the work of the association in connection with securing the establishment of a committee on the lines referred to in clause (a) of the committee's recommendations. Your committee cordially endorse the recommendations of the committee as to clause (a). While generally approving of the other recommendations, your committee desire to lay particular stress upon (1) the necessity of perhaps the most vital of the whole of the three recommendations, increasing the number of chemists trained in research work, and (2) the necessity of making special efforts to enlist the co-operation of manufacturers who hitherto have been lamentably apathetic in this matter. Your committee have no hesitation in stating that clause (b) is perhaps the most vital of the whole of the three recommendations. Manufacturers are apathetic with regard to this subject because they are unorganised, and although consultant scientists, chemists, physicists and engineers exist in this country in sufficient numbers their talents are largely neglected. This country suffers, has suffered, and may in the future suffer because of the lack of intimate intercommunication between science and industry. Science and industry are welded together in the United States and in Germany to form a mighty weapon for the advancement of the commerce of their respective States. That the United Kingdom lacks this weapon is due perhaps in the main to the unassociated employer. Your committee wish to emphasise particularly the recommendation of the Advisory Committee that help be given to the manufacturer through his association.

#### PATENTS.

The "Advisory Committee" recommended uniformity of patent law, throughout the Empire, more strict enforcement of the law with regard to compulsory working of patents in the United Kingdom and that the fullest possible information of enemy patents should be given to British firms during the war. Your committee have

no hesitation in endorsing these recommendations. They have been advocated persistently by this association and are, in the opinion of your committee, of great importance. There is, however, one matter with regard to "patents" to which it is desired that the attention of members should be particularly called. The subject of a patent must:—(1) Be a manufacture; (2) possess novelty; and (3) possess utility. Your committee are of opinion that greater precautions should be taken to avoid the grant of "Letters Patent" in cases lacking evidence of novelty and utility than appear at the present time. Patents are granted exclusively for the purpose of stimulating the inventive spirit for the benefit of industry and of the general community. It is difficult to see how patents granted for all kinds of trumpety articles can be other than mere instruments of advertisement of minor wares, and consequently, from a national point of view, absolutely useless. This prostitution of "Letters Patent" involves waste of the time of the officials at the Patent Office and may act detrimentally in contributing to carelessness in the question of "priority" in respect of really important inventions.

#### TRANSPORT FACILITIES.

Your committee cordially approve of the recommendations of the report:—(a) An impartial committee shall be set up to secure fair and impartial treatment to British traders by British shipping companies, shipowners and home railways; (b) that a definite policy with regard to the improvement and extension of the canal system of the United Kingdom should be formulated; (c) that shipping companies should be prohibited from charging higher rates of freights from British ports than from any North European ports. Your committee have, as will be remembered, expressed their agreement with clauses (b) and (c), and desire to urge upon members most strongly the desirability of supporting these recommendations wherever opportunity serves. It seems to your committee that one practical method of dealing with part of this subject would be:— "That railway companies be compelled to divide up and enter in their rate books all through rates on imported goods, so that the actual rates in respect of the inland carriage should be known." Your committee contend that were this condition enforced the publicity thereby afforded would in due course prevent preferential rates being given to imported goods. Goods in pre-war times shipped from Hamburg via Harwich to Bath or Dublin, were carried at a lower rate than goods sent from London to these towns, and similar anomalies might be quoted showing the unfair handicaps under which British traders laboured with respect to the rates charged on the home railways.

#### A MINISTRY OF COMMERCE.

Your committee are strongly in favour of a Ministry of Commerce, composed of men of whom a certain number should be actually representative of commerce, and acquainted with its practical working difficulties and requirements, and would stipulate that the prime duty of such Ministry of Commerce would be to champion its cause against any other Department which seeks to impose restrictive conditions.

## ANSWERS TO CORRESPONDENTS.

*All inquiries addressed to the Editor must bear the writer's name and full address. We cannot reply to inquiries by letter, but telegrams with replies prepaid will be answered. Correspondents are requested to write their names and pseudonyms distinctly.*

- "Investor."—Your reasoning seems sound, and it would be a pity to sell in face of the facts.
- "J.T.C."—They appear in our issue following the 10th of each month. Back numbers can be obtained.
- "Bongola."—Next week.
- "J. C." (Capetown).—Quite sound. Life about 18 years.
- "J.B." (East London).—Impossible to say yet. Life about 20 years.
- "Anxious" (Grahamstown).—No.
- "Prospector" (Barberton).—According to some authorities, the first discovery of gold in the Transvaal was in the Murchison Range in 1870, but there is evidence that the Boers knew, as far back as 1854, of the existence of gold near Johannesburg.
- "Industry."—The address of the new Industrial Development Co., Ltd., is 4 National Bank Buildings, Simmonds Street, Johannesburg.

## The S.A. Mining and Engineering Year Book 1916.

By S. R. POTTER.

The Standard Reference Work on South African Mines.

Price 15/- net. Post free 17/- 478 pp. In Cr. Folio, Cloth, Gilt Letters.

Obtainable from the Office of this Paper.

### A Recognised Indispensable Work of Reference

For Mining Investors, Mining Engineers, Mine Managers, Bankers, Stockbrokers, Solicitors or anyone interested in the Mining Industry.

A RECORD OF INFORMATION concerning Mining Companies operating in all parts of South Africa. Gold, Diamond, Copper, Tin and other Mines, Collieries, Exploration, and Mining Investment Companies, arranged in alphabetical order.

#### SOME PRESS OPINIONS.

"A complete account of the present position and future prospects of South African Mines, put on permanent record for ready reference."—"The Star."

"The only authoritative work of reference on South African mining companies produced in this country."—"Rand Daily Mail."

"To holders of Kaffir shares and prospective investors this is an aggregate of authoritative information that has a distinct value."—"Financial News."

## THE ORGANIZATION OF MINE SAFETY AND SANITATION.—II.

### Being a Classified Synopsis of the Data Collected by the Committee on Safety and Sanitation of the A.I. of M.E.

ANY safety campaign should be entered into enthusiastically, but not with an idea of immediate perfection. The strongest elements in such work are an accelerated interest and the natural development of a working system, involving safer and more efficient operative methods. Reckless expenditure of money for safety appliances and prizes, or a general hurrah campaign at the outset will result in a reaction; men's enthusiasm will soon lag, and the movement be defeated by its own explosiveness. However, conservatism should not be carried to excess, as general enthusiasm must be created as quickly as conditions will allow. The human element is an important one, and the psychology of the case must be carefully considered. The point of view of the men may be entirely different from that of the management, and it is essential to realise this fact. In this regard, Mr. Sinn says:

"There is a tendency, however, on the part of the workmen, and a perfectly natural one, to believe that they do not have to be told not to get hurt, as they are just as much interested in keeping alive and well as we are in having them so."

Every move in the educational work should be made with this point of view in mind, special emphasis should be given to the fact that we are all exposed to hundreds of dangers which, as busy men, we fail to remember, unless we are expressly reminded of them, and have the contributory causes and thoughtless practices clearly pointed out to us. Where skilled labour exclusively is employed underground, the problem of education is not exceedingly difficult, yet even then the "old-timer" is likely to scoff at familiar dangers and disregard safety innovations. When foreign labour is employed, perplexing difficulties confront one; even requiring the men to sign receipts for rule books have in many cases nearly led to riots. The babel of tongues not only complicates the educational feature but it adds to the general confusion underground, and creates a natural nervousness among the workers, increasing the number of otherwise avoidable accidents. It is well to segregate the men according to race, as far as possible, and never allow a boss to have under him men to whom he cannot readily talk. The number of accidents may be greatly reduced by having a central employment agency; a physical examination of every man employed, and, at stated intervals while in the employ of the company, a rating based on such examination whereby men are given work for which they are better fitted; and a complete card index record of all employees, and of all accidents. The Copper Queen Consolidated Mining Co. has adopted the following educational methods, in addition to its splendid system of first-aid exercises and the training furnished by committee work. Suggestion cards and letterheads are placed at all mines and departments, and may be used by any employee who wishes to send in a safety suggestion. The suggestions may be dropped in a box provided for that purpose or mailed to the inspector. They are collected from the box once a month. All suggestions are considered carefully by the central committee or the workmen's committee, and the sender advised of the action taken. Whenever a fatal or serious accident occurs the inspector must be notified at once, and a report made by him of the accident. If the nature of the accident is such that photographs will prove of value, these are taken and filed with the report. Bulletins are published, telling where the blame should be fixed, and how the accident might have been prevented. Great care is used to secure all possible information, and to place the blame where it belongs, neither company, officials, nor workmen being spared. A rescue station has been centrally located and is fully supplied with everything needed for safety, first-aid and rescue work. First-aid supplies are also placed in round, air-tight cans, 10 in. in diameter, made at the company's shops at a cost of \$4 each; these are distributed through the workings and, except during a short time at first, little

trouble from meddlers has been experienced. Competitive field meets between first-aid teams are held under the auspices of the Red Cross, and according to the rules of the U.S. Bureau of Mines. Bulletin boards are at such places as the public library, reading room, Y.M.C.A., dispensary and outside the rescue station and employment office; on these are posted monthly accident reports, photographs illustrating the right and wrong way of doing certain work, for which men posed as if caught by falling of ground, etc. Safety mottoes printed on large cards have been posted throughout the mine workings. Smokers are given, where the men are furnished with "safety-first" cigars; at these smokers lantern slides are shown, and moving pictures are given in the Y.M.C.A. by the committee. All employees and their families are invited to safety rallies: The lantern slides of underground scenes have proven of great interest to the ladies. The men are constantly inquiring when the next meeting is to be held, showing their interest in these rallies. Upon the Michigan Iron Ranges, the U.S. Government Rescue and First-Aid Car, and first-aid instructions, have been of great assistance in securing the attention and co-operation of the men; this is true not only in Michigan, but wherever the Federal demonstrations have been given. Some companies pay for all safety suggestions, and give buttons to employees who have served on the committee. Cash bonuses have been tried in various parts of the country, but probably nowhere has a better method been adopted, or greater results achieved, than at the United States Coal and Coke Co.'s operations at Gary, W.Va. Howard N. Eavenson wrote the committee a letter, which was read at the Pittsburgh meeting as a part of the discussion of Mr. Higgin's paper, and which sets forth in the following words the premium system as practised at Gary:

"For the past four years the United States Coal and Coke Co. at Gary, W. Va., a subsidiary of the U.S. Steel Corporation, has been awarding premiums to mine foremen and assistant foremen for the prevention of accidents to its employees, which is arranged on a merit and demerit basis. The system adopted is as follows:

#### QUALIFICATIONS.

1. "No man shall be eligible for a premium for any month, in any position, who has not worked in that position every working day during the month excepting one, unless he shall have been promoted during the month from one position to another, and is eligible in both positions.

"Explanation.—It has been a custom for men in this section of the country not to work regularly. A number of accidents have occurred because of the regular foreman not working, and new men substituting. This qualification has therefore been inserted with the view of getting men to work regularly, and thereby assist in the prevention of accident.

2. "A man's work must be satisfactory to his immediate superior, and, if it is not satisfactory, his superior has the right to charge him with demerits to the extent of ten per month.

"Explanation.—This qualification is inserted as a means of discipline, as in a number of instances some of the assistant foremen do not take sufficient interest in the prevention of accidents to attend the weekly meetings of the officials for discussion and investigation of accidents which occur.

3. "This premium is not considered a part of the assistant foreman or foremen's wages, but is strictly in the nature of an award or a gratuity for faithful services rendered to the company.

#### DISTRIBUTION.

1. "Each foreman or assistant foreman is charged with demerits for each man who is injured under his charge, each month, at the rate of 10 demerits for each minor, 20 demerits for each serious, and 40 demerits for each fatal accident.

2. "Any foreman or assistant foreman who does not have any accidents under him during any month is given a credit of 5 merits, which will go toward reducing the number of demerits standing against him until all the demerits are wiped out, when he will not be given any further merits until he again receives demerits. No accident in which the victim loses less than seven days will be considered.

"Explanation.—It is not considered advisable to allow a man to accumulate merits, as it would have a tendency after he had accumulated a large number of merits to cause him to be less careful.

3. "Any assistant foreman in whose section the company's mine inspector finds any dangerous practices or dangerous conditions which

might cause accidents will be charged 5 demerits each visit he makes and finds such conditions. If he finds a section to be D.K., and no dangerous practices or conditions, the assistant mine foreman will be given a credit of 6 merits.

**Explanation.**—This provision is made as it is often the case that accidents occur for which the assistant foreman is not directly responsible, his place might be as safe as it is possible to make it, but through carelessness on the part of one of his workmen an accident might occur over which he would have no control. In order to aid an assistant foreman who has been so unfortunate as to have an accident of this kind to get back into good standing, it has been provided that a merits be given him if his place be kept in safe condition.

On the other hand, an assistant foreman might permit dangerous conditions and practices in his section and still be fortunate enough not to have an accident though not due to any special care or attention on his part. It is, therefore, provided that such assistant foreman be given 5 demerits for the condition of his section.

4. The foreman's account will be charged with all demerits and credited with all merits of the assistant foreman under him, excepting when demerits are given for neglect of duty or causes other than accidents.

5. No person who has 10 or more demerits to his credit at the end of the month shall be entitled to any premium, but if he has less than 10 demerits, he shall receive a premium of \$5 if an assistant foreman, and \$10 if a foreman.

6. Any mine foreman or assistant foreman, who for six consecutive months is entitled to the monthly premium of \$10 or \$5 under the present rules, will at the end of the sixth month receive a special premium of \$15 or \$10, and for each month thereafter so long as his record is up to the requirements under the present rules, but when his record does not come up to the requirements under the present rules, he will have to again make a clear record for another six months before he is again entitled to a special premium.

7. The foremen and assistant foremen have it distinctly pointed out to them by their immediate superior what men or jobs are under their supervision.

8. If a foreman or assistant foreman leaves the employ of the company and later re-enters it, he assumes all demerits charged against him when he left the company."

(To be continued.)

## SAFETY FIRST: SOME PRACTICAL POINTS.

For the last six months there has been such a remarkably low accident record at the Omaha plant of the American Smelting and Refining Co. that it can no longer be regarded as a "flash in the pan," but must be attributed to the excellent work of the management and the men themselves, says the *Safety Review* of the American Smelting and Refining Co. The manager of this plant, Walter T. Page, gives the following interesting description of the method used for securing these results:

In the chasing down of accidents and the very great reduction of same at this plant, the following method in outline has been adopted: In the first place, the personnel of the plants is divided up into three committees, made up of the workmen of the various departments. The numbers are divided up as nearly equal as possible, and they are made up also with reference to exposure to accidents, so that they are as nearly as possible all on the same plant. Each of these committees has a flag, and the committee which has had the least number of accidents in any one month has its flag at the masthead as a recognition of its good services. Next, we have a rule book. This rule book is a good one. It was made up by the superintendents' committee and also the foremen, and was subject to much discussion pro and con, before it was published; in fact, it is the result of the best thought of the experts in the whole plant to avoid accidents in every department. We may say in passing that this rule book is printed in four or five different languages to suit each employee as the case may be. Each man is given one of these little books and is required to learn the general rules and also the special rules of his department. The superintendents, when they have the time, instruct them, and the foremen likewise. After they have progressed to a certain point as individuals they give them an examination, and if they pass that examination they are given fobs to wear. The fob is a sort of bronze affair hung with a little leather strap. It makes a very good watch fob and is rather sightly in appearance. The men vie with one another to get these mementoes and work hard for them. The task is not difficult, and it all stimulates each department to become familiar not only with their work, but with the dangerous practices connected with it. If a man meets with an accident violating a rule, it goes hard with him. The men themselves will take him in hand, and the foreman will do likewise. Immediately after each accident a meeting is held, bringing together all the witnesses, and the responsibility is placed, it matters not on whom it may fall, and the decision reached is placed on all the blackboards in the plant. The greatest publicity is given to all matters pertaining to safety, and on entering the plant the first thing that greets the eyes of the workmen is a great blackboard on which any recent information is published. Blackboards are furnished to each department, and these are scanned daily by the men in that department.

Near the gate is a target with a red bull's-eye and for each accident the ball is moved out from the centre one division. If any department has made an especially good record, it is recognised on the larger bulletin board as well as the one in that department. So much for the real prevention of accidents. Aside from the above committees, there is a superintendents' committee and the general foremen's

committee. Each of these committees meets every two weeks. All the accidents are gone over and discussed and recommendations come in from both as to any improvement that might be made in the plant to make it a little safer. Suggestions from the foremen's committee are passed on to the superintendents for action, and wherever it is feasible and desirable, their recommendations are agreed to and the change requested is made. We encourage suggestions from the men and the foremen, and wherever there is sufficient merit they are concurred in and a remedy applied. We find that doing this makes the men and also the foremen feel that they have a voice in the operating of the plant for safety purposes, and it increases their interest correspondingly. We have spent a good deal of money in placing safety devices. Very many of them are excellent; but we believe that the greatest amount of good has come not from these expenditures, but from inculcating the safety habit in the man employed as soon as he is enrolled on our books. Immediately he is given the Rule Book with the injunction that he is to become a safety man from that time forward—that he is to safeguard others as well as himself, and is told that careless men are discharged as soon as their habits become apparent. We have a physician who comes to the plant at 10 o'clock every morning and remains one hour or more. He makes a physical examination of all the men newly employed in the last 24 hours with a view to their desirability. Some are rejected immediately, but most of them are retained. The doctor being in the plant enables the old men who are in any way ailing to reach him with the least amount of difficulty on their part, rather than have them go to his uptown office, which is not so accessible. It is optional with them, however, as to which place they may see him. One of the real difficulties which we encountered was to have the foremen or mechanical men in charge slow their work down to a point where their operations were conducted in a safe manner. There is always a tendency to push the job along. That is almost invariably one of the elements which we have in operating, and when the limit at which the men can move safely and securely is exceeded, you are going to have bad accidents. This was a difficult point to overcome, but I believe it has been overcome by continued and energetic effort and warnings. One more point: We do not believe generally in bonuses and premiums in welfare work, but in one respect we have diverged a little from this. We give cigars to the departments that have gone through the month without accident. The cost is not great, and the benefit has been real. It makes a little distinction between those who have been careful and those who have allowed accidents to creep in. In concluding I must add that the methods outlined are good, and that our safety and welfare man, Mr. Rasmussen, who is simply a bunch of enthusiasm in himself, has the happy faculty of imparting this enthusiasm to others, and is in this way largely responsible for our obtaining the results which show for themselves.

### Dr. Wagner's Articles on Aliwal Diamonds.

The third and final instalment of Dr. Wagner's articles on the Aliwal North Diamond Fields is unavoidably held over till next week.

### MINING EXAMINATIONS.

Study for Certificates as Mine Captains, Mine Managers, Surveyors, Mechanical and Electrical Engineers, and Engine Drivers. Private Tuition and Correspondence Lessons, where personal tuition is impracticable. Practical Mathematics and Electrotechnics. E. J. MOYNIHAN, Consulting Engineer, Cuthbert's Buildings, corner of Eloff and Pritchard Streets, Johannesburg, P.O. Box 2061.

### BARFORD & Co., Ltd. (Late Bull & Oehman, Ltd.)

Scientific and Mathematical Instrument Department.

Large Stocks of Theodolites, Levels, Steel Metallic Tapes and General Surveying Appliances.

REPAIRS of Scientific Instruments a SPECIALITY.

Phone 1221. 59, Rissik Street, Johannesburg. Box 4040.

## CHAMBER OF MINES AND MINE WORKERS' UNION.

### Official Statement Issued Containing Important Concessions.

The following statement in regard to the matters discussed at the conference between representatives of the Chamber and representatives of the South African Mine Workers' Union has been issued by the Executive of the Chamber of Mines: The matters discussed at the conference were as follows: Employment of non-union men; standing joint conciliation committee; the "colour bar"; working hours; standard rates of pay; restriction on the number of machines and number of natives per white supervisor; and reciprocity between benefit societies. The Executive Committee of the Chamber has carefully considered the various requests put forward at the conference by the representatives of the Union, and makes the following statement in regard to them:

#### NON-UNION MEN.

This matter was brought forward more particularly in connection with the recent strike at the Meyer and Charlton Mine, where some forty underground employees refused to work unless two non-union skipmen were discharged or joined the Union. The Chamber at the time pointed out to the Union that the question at issue on the Meyer and Charlton had not even been raised by the Union at its previous discussions with the Chamber, and that while the Chamber had no desire to place the slightest obstruction in the way of employees joining trade unions should they desire to do so, it could not agree to act as a means of coercing employees to join the unions. It was then agreed that the general question of the employment of non-union men should be submitted to the conference, and that in the meantime the Meyer and Charlton men return to work, the two non-union skipmen being temporarily transferred to other work on the surface of that mine. At the conference the representatives of the Union emphasised the advantage to the employers, as well as the employees, of a sound, properly-conducted and thoroughly representative Union, and they asked that the employers should assist in attaining such a Union by granting facilities for the collection of subscriptions from Union men, permitting the Union stewards to come to the surface half-an-hour earlier once a week in order to collect the subscriptions, the stewards being given a shelter in which to sit, or, alternatively, by the companies deducting the subscriptions from the wages of such men as request them to do so, in the same way as boarding-house dues, etc., are deducted. The Chamber has already intimated that it will not agree to coerce non-union employees to join the unions, but it is in sympathy with the desire for a strong, well-conducted and responsible Union, the establishment of which is indeed a necessary corollary to the success of the principle of collective bargaining, which principle has been accepted by the Chamber for some time. The Chamber's representatives, however, pointed out that it would appear that the constitution of the South African Mine Workers' Union permitted separate action by its various branches, and that the Meyer and Charlton strike was an instance of the result of such provisions, as the Union, in its reply to the Chamber, had stated that the strike had occurred without the knowledge of the Executive Committee of the Union. In these circumstances, therefore, unless this were remedied by the necessary amendments to the constitution of the Union, it was useless to enter into an agreement with the Executive Committee of the Union if any one of the various local branches was permitted under the constitution to adopt independent action, contrary to any such agreement. The representatives of the Union concurred in that view, and stated that if the Chamber acceded to their request for the facilities mentioned the constitution of the Union would be altered so as to forbid such sectional action. Subject, therefore, to satisfactory alterations being made in the constitution of the Union, the Chamber will recommend to its members that the Union subscriptions of those employees who authorise it should be deducted from their pay and handed to the Union nominated.

#### STANDING CONCILIATION COMMITTEE.

The discussions that have taken place between the Chamber and representatives of the employees all point to the desirability of establishing some standing committee representative of both employers and employees, to which any grievances could be submitted. Naturally such a committee would only deal with matters which had already been submitted to the management for consideration. In the event, however, of the matter not having been adjusted by the management, the subject could be referred to such a committee. The Chamber accordingly suggests that a Joint Standing Conciliation Committee, consisting of representatives of the Chamber and representatives of the South African Mine Workers' Union, be appointed to discuss such grievances and difficulties as affect members of the Union.

#### THE "COLOUR BAR."

The question of the "colour bar" and the general economic and industrial relationships between the European and the coloured population is one of the most difficult of South African problems. The European population is naturally desirous of maintaining its position and retaining for itself the fields of employment which it has held in the past. The coloured population, on the other hand, claims the right to work and to progress. The mining industry has been specially singled out, through the mining regulations, for legal restrictions to safeguard the position of the skilled European employee. The industry has not attacked and has no intention of attacking these restrictions, and the figures quoted by the Chamber's representatives at the con-

ference clearly showed that there has been no increased employment of coloured persons on the mines at the expense of white. The Chamber is prepared to recommend to its members that the status quo as at present existing on each mine shall be maintained, and that any future instances where it is alleged that a European skilled workman has been replaced by a coloured workman shall be brought before the Standing Conciliation Committee for settlement.

#### WORKING HOURS.

In the statement sent to the Union on the 26th January, 1917, the Chamber gave its reasons for refusing to agree to the request for the reduction of the present weekly hours from 48 at the face (or approximately 51 "bank to bank") to 44 "bank to bank." The Union representatives at the latest conference made an earnest appeal that a trial be made of the "bank to bank" system, with a short shift on Saturday. It is the keen desire of the Chamber to arrive at an amicable settlement of the vexed question of hours, and it is accordingly prepared to recommend to its members that as from 1st June, 1917, the underground working week be 48½ hours "bank to bank," the length of each shift to be counted from the "first skip down to the first skip up." As regards the Saturday shift, although some mines could make workable arrangements for a six-hour shift on that day, a number would undoubtedly find such a great reduction of the Saturday shift exceedingly unsatisfactory, owing, for example, to the difficulty of lashing and tramping the rock in the short time available. Further, developing and shaft sinking work could not in some cases be completed in the time. The Chamber is prepared to recommend that the Saturday shift shall be at least an hour shorter than the week-day shift, provided that the short shift shall not necessarily apply to developers and shaft sinkers if mutually arranged to the contrary between the mine management and the individual concerned, such mutual arrangement being, of course, subject in any case to the requirements of the existing law and of the mining regulations. In deciding to agree to make these recommendations the Chamber has been influenced largely by the assurance of the Union representatives that if the reduced hours were agreed to the total output and general efficiency would not be diminished, and that the employers would find the experiment a success. The recommendations are made on the assumption that this assurance will be justified by results, and they are subject to certain mines, not exceeding six in all, being exempted from the proposed arrangements, and also to the Union undertaking that it will not again raise the question of working hours within five years. As regards bankmen, who do not come under the above proposals, the Chamber is willing to recommend that all work in excess of eight hours be counted as overtime, such time to be paid for at ordinary rates for the first two hours over eight hours, and at time and a quarter after ten hours; that is, at a rate per hour equal to one and one-quarter times the normal weekly earnings (excluding overtime earnings) divided by the normal weekly hours (excluding overtime); and further, that bankmen shall not, except for interchange of shift or in an emergency be employed for more than ten hours per day.

#### STANDARD RATES OF PAY.

On this subject also the Chamber has given its views in the statement sent to the Union on January 26, 1917. From the further discussions at the Conference it is most clear that the question as affecting miners is inseparably connected with the question of the contract system, and the proportion that the guaranteed day's pay portion of the miner's remuneration should bear to his total remuneration. This very matter is now under investigation by the Government Commission on Mine Contracts, and the Chamber would again repeat its suggestion that consideration of the subject of standard rates of pay be deferred until that Commission has reported. Thereafter the Chamber is prepared to reconsider the matter if desired, in the light of the report of that Commission. The Chamber would direct the attention of the Union to the important recommendation which it has already intimated its willingness to make to its members, namely, that in no case will any European employe (other than an apprentice) with more than six months' experience of underground work receive a lower wage than 12s. 6d. per shift. This recommendation it is still prepared to make, and also to extend to include bankmen.

#### MACHINES AND NATIVES.

The difficulty of fixing a maximum number of machines or a maximum number of natives per white supervisor applicable to all conditions on the mines was again emphasised by the Chamber's representatives at the Conference. The number of machines and the number of natives that can be properly supervised by one individual vary to a great extent, depending, as they do, largely upon the conditions of the working place as well as the capacity of the individual. A much greater number of machines or natives can be supervised satisfactorily in some cases than in others, and as any maxim can only rightly be fixed by reference to the first-mentioned class they would be of no value as a check on excessive numbers in the other cases. Consequently an artificial restriction on the number of machines or natives supervised would not attain the object intended. The figures submitted to the Conference showed that the number of cases where a very large number of

...suggested by ... was ... of ... The ... of ...  
 ... the ... of ... the ... of ...  
 ... the ... of ... the ... of ...  
 ... the ... of ... the ... of ...

**BENEFIT SOCIETIES**

The representative of the Union mentioned an unfortunate feature in connection with the medical benefits provided by the mine benefit societies, namely, that employees on a mine lay on the Witwatersrand who are *de facto* members of the benefit society of that mine but who reside in the central area, are unable to participate in the medical benefits owing to the benefit society doctor being resident near the mine and unable to attend members at a distance. It appears to the Chamber that the benefit

societies should have no difficulty in arranging for reciprocity as to the extent in their subscriptions to members wherever resident on the Witwatersrand. The societies are, however, in nearly every case meetings called by the employers and the Chamber is therefore not in a position to influence them. It is, however, prepared to give any assistance possible towards encouraging the societies to provide such reciprocity and, if requested to do so, would call a meeting of representatives of the societies to discuss the question. In offering to agree to the important concessions set out in the above statement the Executive Committee of the Chamber wishes to make it clear that the statement, covering as it does all matters brought forward by the Union at the conference, must be taken as a whole, and the proposals accepted or rejected as a whole. It would further point out that the statement refers only to the Witwatersrand gold mining members of the Chamber.

## Correspondence and Discussion.

Comments on Questions Arising in Technical Practice or Suggested by Articles in the Journal—Views, Suggestions and Experiences of Readers.

### The Sailors' Day, March 10th.

To the Editor, *South African Mining Journal*.

Sir,—I will be glad if you will allow me space to publish the contributions made up to date for Lady Beatty's Fund for the training and education of orphans, left by mercantile and naval officers and men who have died "on service" during the present war. The Central Mining and Investment Corporation, £1,500; Johannesburg Consolidated Investment Co., Ltd., £1,000; The Consolidated Goldfields of South Africa, Ltd., £500; The Consolidated Mines Selection Co., Ltd., £500; Messrs. Goerz & Co., Ltd., £350; Messrs. Neumann & Co., £300; General Mining and Finance Corporation, £300; Anglo-French Exploration Co., £150; Messrs. Mosenthal Bros., Ltd., £250; Messrs. Hunt, Leuchars & Hepburn, Ltd., £250; Messrs. Reunert & Lenz, Ltd., £250; Dunsward Iron and Steel Works, Ltd., £105; The Turf Club, £105; Messrs. Henwood, Son, Soutter & Co., £100; Messrs. W. F. Johnstone & Co., £100; Messrs. J. & R. Niven, £100; Messrs. C. O. Thienhans, Ltd., £100; Messrs. Blane & Co., £100; Messrs. J. W. Jagger & Co., £100; Messrs. Mortleman & Co., £100; Messrs. E. W. Tarry & Co., £100; Messrs. Allen Whyte & Co., £100; Messrs. Hamilton Bros., £100; Messrs. Parker Wood & Co., £100; Messrs. Heyman & Gordon, £100; total, £6,760. Several other large amounts have been promised and further lists will be published next week.—Yours, etc.,

KENNETH AUSTIN.

Hon. Secretary.

"The Sailors' Day" (Lady Beatty's Fund),  
 March 2, 1917.

### South African Oil Shale.

To the Editor, *South African Mining Journal*.

Sir,—As I have done a good deal of work in connection with oil shales in the Transvaal and have studied the subject pretty extensively, my attention has been directed by several persons to an article on "The Oil Shale and Coal By-Products Prospects of the Ermelo District," which appeared in your issue of 27th January. It has been pointed out to me that the article in question is of a somewhat damaging

kind as far as South African oil shales are concerned. As a matter of fact, I read the matter very attentively when it was published, and found it accurate enough but not in any way damaging or even depressing. The circumstance serves to show how ready people are to see what they consider to be weak points in the industrial prospects of this country, and how oblivious or ignorant they usually are of the more favourable side of things. Your article stated plainly enough that the Ermelo shales were being discussed, and refers to work that was done many years ago. I should like to point out, for the benefit of the uninformed people who have appealed to me, and of uninformed critics generally, that the Ermelo district covers only a comparatively small portion of the oil shale area of the Union. For further information on this matter I may refer to the "Report upon the Petroleum Prospects in the Union of South Africa," by E. H. Cunningham Craig, B.A., F.G.S., which was published as a Government Blue Book in 1911, a considerable time after the Ermelo operations were carried out. The concluding paragraph of this report says:—"All the evidence to hand at present leads to the belief that an oil shale industry has good prospects of proving successful, and I would urge that no effort should be spared to ensure that a fair test of its possibilities be made." Investigations have since been made in the Utrecht and Impendhle districts of Natal and in the Wakkerstroom district of the Transvaal. Except in the Impendhle district, where prospecting has only been carried out on a very small scale, investigations have proved large areas of oil shale that are well above the pay limit, and which according to Mr. Cunningham Craig's figures, confirmed by Dr. F. Alexander Blair, of London, and myself, are capable of yielding excellent returns upon the capital that is required for working them.—I am, etc.,

J. E. MILLS DAVIES.

### Swaziland Tin.

The following are the results of the operations of this company for the month of January, 1917:—Concentrates recovered, 31.4 long tons; estimated profit (taking tin at £175 per ton), £985; add adjustments in respect of previous shipments, £206; total, £1,191.

### THE TRANSVAAL GRAPHITE M. & M. Co., Ltd.

W. M. HUDSON, Managing Director.

Foundry Plumbago.—Flake Graphite.—Pipe Jointing.—"Murrella" Boiler Composition.—Graphite Pigment, etc.

Office: 20, Cullinan Building, Johannesburg. Phone 2560.

### ELECTRIC WELDING CO., 20, Joubert Street, C/o Fox Street,

Telephone No. 2661.

JOHANNESBURG.

Latest Patent Process for Welding Iron or Steel, Malleable Cast Iron, Manganese Steel and Steel Castings. New Teeth Welded on Steel Gear Wheels without Softening or Distorting the Wheel. Worn Shaft Journals built up to Original Diameter. Torn Keyways Rebuilt, etc. Numerous Crank Shafts Successfully Welded.



## THE WEEK IN THE SHAREMARKET.

### Business Dull and Restricted.

Ox Saturday morning the whole market took a turn for the better. The buying up of New Geduld Deep continues, though that of Kleinfontein has ceased. The favourites eased off somewhat at Monday's call, otherwise there was generally little alteration. Business was restricted, as is usually the case at the beginning of the week, until the arrival of cables. Rand Selections seem to be looking up again, while the Randfontein lot are quite out of favour. The market remained dull throughout the day. The satisfactory war news had somewhat of a beneficial effect on Tuesday morning's market. Though the volume of business was no greater, yet prices were appreciably harder, especially among the favourites, the biggest advance being credited to Brakpans. The market kept steady till the close. Montealeo Diamonds touched 80s., but finally came sellers at the price. The market was dull on Wednesday morning. Modder stocks, however, remained firm with even a slight advance, but the rest of the favourites came sellers at Tuesday's buying prices. Rooiberg Tins were a very weak feature. This stock, though standing at the same low level as Zaaipplaats, never seems to come in for any sort of a gamble. On Thursday's call prices were maintained at last quotation. Brakpans look like going better, and the buying bid was an advance. The market was again cleared of New Geduld Deeps, some 1,500 being taken at 6s. 6d. and always by the same buyer. Sub Nigels were offered at 25s. sixty days' buyer's option, without takers. Both from an investor's and speculator's point of view, the position of the market is by no means satisfactory. The controllers of the chief stocks are apparently holding their hands and taking no interest in the small fluctuations of their holdings. In outside stocks little has been doing except in Montealeo Diamonds, whose last price is 75s. buyers, after reaching 80s. The following quotations represent the averages for the past week: New Farms, 1s. 5d. buyers; Phoenix, 9d. to 10d.; New Ophirs, 5s. sales; Randfontein Explorations, 2s. 6d. buyers; Antimony, 2s. to 2s. 3d.; Old Daggafonteins, 10s. sales; and Options 7s. sales. There has been nothing doing in Hendersons.

\* \* \* \*

There was rather more business put through on Friday, parcels of Geduld Props. and Government Areas changing hands. Randfonteins were also rather largely dealt in at 11s. 9d. sixty days' buyer's option. The buying of New Gedulds brought the price up to 6s. 9d. The following figures show the alteration in prices. Sales: Government Areas, 54s. 9d.; Randfonteins, 11s. 6d.; Springs, 54s. 3d.; Bantjes, 5s. 7d. The alterations in quotations without sales were Brakpans, 88s. to 91s.; Mines Selections, 20s. 6d. to 21s. 3d.; Kleinfonteins, 18s. to 18s. 3d.

\* \* \* \*

	Fri. 23rd.	Sat. 24th.	Mon. 25th.	Tues. 27th.	Wed. 28th.	Thurs. 1st
African Farms . . .	7 6*	7 8*	7 8*	7 7*	7 6*	7 6*
Apex Mines . . . .	5 6*	—	5 7	5 6*	5 6*	5 7*
Aurora Wests . . .	—	13 6*	13 6*	13 6*	13 6*	13 6*
Bantjes Consolidated	5 6	5 6	5 8	6 0	6 0	5 9*
Brakpan Mines . . .	87 0	87 6*	87 6*	90 0	89 0*	91 0*
Breyten Collieries .	15 6*	—	16 6*	—	16 6*	—
Brick and Potteries .	—	—	—	—	—	5 0*
British South Africa	13 0†	13 0†	—	11 9†	—	—
Bushveld Tins . . .	—	—	0 2*	—	0 1*	0 4*
Cinderella Cons. . .	—	—	—	—	—	4 0*
City and Suburbans	31 9*	32 0*	32 0*	32 3*	32 3*	32 0*
City Deeps . . . . .	75 0	76 0*	—	76 0*	77 0	77 0*
Cloverfield Mines . .	8 3*	8 3*	8 4*	8 4	8 6	8 1*

\*Buyers; †Sellers; A Odd lots; B Ex London.

	Fri. 23rd.	Sat. 24th.	Mon. 25th.	Tues. 27th.	Wed. 28th.	Thurs. 1st
Clydesdale Collieries	13 0*	13 0*	13 0*	—	13 0*	13 0*
Concrete Construc.	2 6†	—	—	—	—	—
Con. Investments . .	18 6	18 6*	17 9*	17 6*	17 6	17 6*
Con. Langlaagtes . .	23 0	22 6*	23 0*	23 6*	23 6*	23 6*
Con. Main Reefs . . .	—	—	17 0†	17 0†	17 0†	17 0†
Con. Mines Selection	20 0	—	—	20 6	20 6*	21 6
Coronation Collieries	—	32 0*	32 6*	32 6*	32 6*	—
Coronation Synds. . .	—	3 0†	—	—	3 0†	3 0†
Crown Diamonds . . .	2 0*	2 0*	—	—	2 0*	—
Crown Mines . . . . .	—	—	—	60 0†	60 0†	60 0†
East Rand Centrals	9 0*	9 0*	—	9 0*	9 3*	10 0†
East Rand Coals . . .	2 1*	2 1*	2 1*	2 1*	2 1*	2 1*
East Rand Deeps . . .	1 1*	1 1*	1 1*	1 1*	1 1*	1 1*
East Rand Props. . .	10 3*	10 3	10 6*	10 3*	10 3*	10 6*
East Rand Deben. . .	£60*	£60*	£60*	£60*	£60*	£60*
Eastern Golds . . . .	1 2*	1 2*	1 2*	1 3	1 2*	1 3
Ferreira Deeps . . . .	25 0†	—	25 0†	—	—	—
Frank Smith Diam'ds.	3 7	3 6	3 6	3 6*	3 5*	—
Geduld Props. . . . .	38 6*	39 0	39 0	38 9	38 0†	38 6
Glencains . . . . .	—	1 0*	—	—	1 0*	—
Glencoe Collieries . .	8 9*	8 6*	8 6*	8 6*	8 6*	8 9*
Glynn's Lydenburgs . .	15 0†	15 0†	15 0†	15 0†	11 0†	11 0†
Government Areas . .	51 9	55 6	51 9	55 0*	55 0	55 0
Jupiters . . . . .	6 3	6 0*	6 0*	6 3†	6 0*	6 1*
Knight Centrals . . . .	7 9	7 8*	7 7*	7 7*	7 7*	7 6
Lace Props. . . . .	4 6*	4 11*	4 5*	4 9*	4 9*	4 9*
Leeuwpoot Tins . . . .	12 0†	12 0†	12 0†	12 0†	11 6*	11 6*
Luijpaardsvlei Est.	6 6*	6 0*	7 0†	—	6 0*	—
Lydenburg Farms . . .	6 0*	—	—	5 10*	—	5 9*
Main Reef Wests . . . .	3 5*	3 1*	3 1*	3 1*	3 5	3 3*
Meyer & Charltons . . .	—	—	—	102 6*	102 6*	102 6*
Middleley Est. . . . .	—	1 9†	1 9†	1 9†	—	1 9†
Modder B's . . . . .	145 0*	147 0	146 0	147 0	147 6	—
Modder Deep . . . . .	125 0*	126 6*	126 0*	126 6	127 0	127 6
Natal Navig. Col. . . .	18 6*	—	18 6*	18 6*	18 6	18 6
New Boksburgs . . . . .	1 1*	1 3*	1 3*	1 3*	1 4*	1 1*
New Eland Diam'ds	13 6*	—	13 6*	—	19 0†	—
New Era Cons. . . . .	8 0†	8 6	8 1*	8 4	8 9†	8 3*
New Geduld Deeps . . .	6 2	6 6	6 6*	6 6*	6 6*	6 6
New Gochs . . . . .	6 1	—	—	—	—	—
New Heriot . . . . .	—	—	—	—	16 0†	—
New Kleinfonteins . .	18 6	18 3*	18 3	18 0*	18 3	18 3*
New Modderfontein . .	—	—	—	—	372 6†	—
New Ricfonteins . . . .	—	—	0 10*	0 10*	0 10*	0 10*
Nourse Mines . . . . .	21 9*	22 0*	—	22 0*	21 9*	21 9*
Pretoria Cements . . . .	80 0*	82 0	80 0*	78 6*	78 6*	78 6*
Rand Collieries . . . . .	2 4*	2 6*	2 9†	2 3*	—	2 3*
Rand Klips . . . . .	8 7*	8 8*	8 9	8 9*	9 1	8 10*
Rand Nucleus . . . . .	1 6	1 5*	1 5*	1 5*	1 5*	1 5*
Rand Selections . . . . .	61 0*	62 0	62 6	62 0*	62 8*	62 6*
Randfontein Deeps . . .	6 0*	6 1	6 0	6 0	6 0*	—
Randfontein Est. . . . .	15 6*	15 9	15 6	15 0*	15 3	14 6
Roberts Victors . . . . .	—	—	10 0†	10 0†	11 0	10 0†
Rooibergs . . . . .	8 0*	7 9*	—	7 9*	7 3*	7 6
Rondepoort Uniteds . . .	—	—	—	—	1 6*	5 0*
Ryan Nigels . . . . .	—	—	2 7*	—	2 6*	2 6*
Shebas . . . . .	—	—	1 3*	1 1*	1 3*	—
Simmer Deeps . . . . .	3 0*	—	3 0*	3 0*	—	2 9*
S.A. Breweries . . . . .	28 6*	28 6*	28 6*	—	28 6*	29 0*
S.A. Lands . . . . .	1 0*	1 0*	1 0*	—	4 2*	4 1*
Springs Mines . . . . .	53 3	54 9	54 3	54 9	54 6	51 3*
Sub Nigels . . . . .	24 6	24 9	24 6	21 9*	24 9	21 6
Swaziland Tins . . . . .	—	—	10 0†	—	30 0†	—
Transvaal Lands . . . . .	—	—	7 0*	—	8 6	9 6*
Van Ryn Deeps . . . . .	62 6*	62 6*	62 3*	62 9	62 6*	62 7†
Village Deeps . . . . .	25 6*	25 6†	—	27 6†	—	27 6†
Vogel Con. Deeps . . . .	1 1†	1 0†	1 0†	—	1 2†	—
West Rand Cons. . . . .	5 0*	5 0*	5 0*	5 0*	5 0*	5 0*
Western Rand Est. . . . .	1 6*	1 6*	1 6*	1 6*	—	1 6*
Witbank Collieries . . .	14 0*	—	—	—	—	—
Witwatersdrands . . . .	42 6*	45 0†	44 0†	44 0†	44 0*	46 0*
Wit Deeps . . . . .	15 6	15 9*	16 0*	16 3*	16 3*	16 3*
Woluhuters . . . . .	10 3*	10 6	10 6*	—	10 3	10 3*
Zaaipplaats Tins . . . . .	7 6	7 6	7 3*	7 1*	7 1*	7 6

\*Buyers; †Sellers; A Odd lots; B Ex London.

### PARTNERSHIP.

**WANTED.—Active Partnership. Industrial or Commercial. 15 years experience mining engineering and construction work.—Apply, "M," S.A. Mining Journal.**

**NEW AND UP-TO-DATE FOUNDRY** will undertake to supply Castings of every description in Brass, Gun Metal, Phosphor Bronze, and Acid-resisting Metal. Duplicate Orders a speciality.

**CENTRAL BRASS FOUNDRY,**  
49, POLLY STREET,

Quotations on receipt of particulars. **JOHANNESBURG**

# Rhodesian Section.

## RHODESIAN MINERAL OUTPUT.

### Details for January.

We have received for publication from the office of the Rhodesia Chamber of Mines (Incorporated) the following detailed statement of the mineral output for the month of January, with comparisons and values:

MATABELELAND				No. of Tons stamps treated.	Yield ozs.	Value. £	
<b>BULAWAYO DISTRICT—</b>							
Mtcoron (W. J. Jano)	5	384	133.56	554			
Do (sands)	—	300	43.46	160			
Ariassana (Rhodesta, Ltd)	5 1P	410	341.66	1,430			
Antelope G.M. (Rhod), Ltd	2 1P 2P 11	5,655	770.62	3,195			
Do (sands)	—	5,567	1,056.06	4,578			
Arte Up (J. A. Mc Murray)	3	52	103.89	431			
Boniani (J. M. Stone, Dec)	5	35	41.87	79			
Bothal (W. H. Robinson)	5	139	35.56	139			
Bulawayo Main A (Aserman and Cornack)	5	312	116.72	429			
Do (sands)	—	108	25.95	107			
Cecil (Master Cecil Synd.)	5	83	77.12	320			
Column (Carson Mines, Ltd)	5	615	286.44	1,187			
Do (sands)	—	440	43.69	181			
Confidence (A. D. Hall)	5	525	119.68	496			
Do (sands)	—	380	35.00	137			
Cottage (Cottage Synd.)	4	181					
Do (sands)	—	95	43.41	180			
Cream (G. Baueroff), sands	—	216	21.27	88			
D.V.R. 1 (D.V.R. Synd.)	5	352	64.32	267			
Donove (W. K. Early)	2	30	38.94	161			
Durban (Durban Synd.)	4	240	128.33	532			
Do (sands)	—	140	55.52	222			
Eagle Vulture (T. Berwitz)	2	200	55.46	230			
Elizabeth (Elizabeth M. Synd sands)	—	812					
Do (slimes)	—	314	281.06	1,165			
Excelsior (D. Schwartz), Dec.	2	20	10.38	43			
Farvie (H. S. Henderson)	5	669	278.07	1,179			
Do (sands)	—	626	10.55	45			
Franklin (E. Basch)	5	200	40.37	167			
Frank's Luck (R. Aserman)	5	236	35.79	148			
Flora (H. L. Henderson)	2	150	51.26	212			
Fred. (Trans. and Rh. Synd.)	10 2P	2,050	1,102.76	4,571			
Do (sands)	—	2,050	364.26	1,510			
Germania (A. G. Hadingham)	2	238	226.83	940			
Great Belingwe (R. C. Boyes)	5 1P	569	105.40	437			
Do (concentrates)	—	2	12.11	50			
Hanover (W. and A. Synd.)	5 1P	311	152.43	632			
Jeffs (G. Horton)	3	295	128.79	534			
Jumpers (J. P. McCay)	5	375	215.26	892			
Do (sands)	—	237	28.89	120			
Kameel (W. H. F. Edenson)	5	252	48.22	200			
Lewis A. (E. K. Jubber)	5	108	19.07	79			
Lone Hand (Armstrong, Furber & Alexander)	5	306	94.49	392			
Do (sands)	—	215	34.56	143			
Lonely Reef G.M. Co., Ltd.	20 3T	4,850	958.07	4,013			
Do (slimes)	—	4,850	2,700.66	11,195			
Long John (Susanna Mines, Ltd.)	2 1P	4,120	636.50	2,846			
Matabele Queens Co., Ltd.	10	1,860	511.70	2,121			
Do (sands)	—	1,860	473.35	1,962			
Mission (T. A. Mathews)	11	110	39.44	165			
Do (sands)	—	130	26.47	110			
Mollikins (H. Ashburner)	3	51	14.86	62			
Near By (R. Imes)	3	6	11.30	46			
Nelly (F. D. Roscoe)	2 1P	743	241.65	1,002			
Do (sands)	—	300	94.72	390			
New Eclipse (J. B. Stewart)	5 1P	1,174	295.48	1,225			
Do (sands)	—	320	19.03	79			
Newtonfontein (A. H. Newton)	3	350	365.64	1,516			
<b>BULAWAYO DISTRICT total</b>							
					15,531	39	61,401
<b>GWELO DISTRICT—</b>							
Alderman (Williams & Woodyer)	5	125	31.84	132			
Do (sands), December	—	810	77.94	323			
Do (sands), January	—	870	59.90	248			
Bell Reef Dev. Co., Ltd.	2 1P 1T	3,486	822.10	3,408			
Bonsor B323 (Cornish Syndicate)	10	1,100	140.59	583			
Do (sands)	—	1,190	82.43	342			
Bonsor B327 (T. Roberts)	10	750	64.06	260			
Broken Luck (E. Rowe & Bradley)	1P	350	67.05	273			
Cap (W. Cook) (sands)	—	90	24.25	161			
Commemara (Commemara Synd.)	20 1P	3,510	206.82	857			
Do (sands)	—	3,310	655.77	2,706			
Conqueror (Leppington & McOnkey)	2	120	124.34	515			
Csardas (Wolfshall Synd.)	10	433	366.73	1,520			
Do (sands)	—	360	25.89	107			
Do (slimes)	—	73	4.60	19			
Emerald (Linscott and Gibb)	5	710	31.74	132			
Do (sands)	—	900	31.56	131			
Falcon Mines, Ltd.	34N 8T	17,830	3,193.35	13,751			
Gaika G.M. Co., Ltd.	1T 51C	3,437	971.03	4,078			
Do (sands)	—	3,761	639.20	2,895			
Glen Hume (Glen Hume Synd.)	10	1,020	82.85	344			
Do (sands)	—	1,145	42.65	177			
Glen Rosa (Glen Rosa Synd.)	10	908	257.43	1,361			
Do (sands)	—	650	54.14	224			
Globe & Phoenix G.M. Co., Ltd.	40 10P	6,252	6,041.95	25,376			
Do (sands)	—	9,055	1,872.81	7,866			
Do (slimes)	—	—	460.71	1,935			
Gothic & Pagamesa (W. H. Peard)	15	605	282.24	1,170			
Do (sands)	—	445					
Do (slimes)	—	95	78.33	325			
Invulnerable (A. E. West)	5	157	31.22	129			
Leopard (Leopard Trib. Synd.)	5	430	80.84	335			
Moss (W. M. James)	5	969	535.03	2,218			
New Dunraven G.M. Co., Ltd.	5	773	66.52	276			
Do (sands)	—	459	36.50	151			

## GEO. McINNES.

S.W. COR., MARSHALL SQUARE, OPPOSITE CHARGE OFFICE.  
Has the largest and finest stock on the Rand of Electrical Goods imported regularly by every mail from England.

## FRANK E. NOTT, Private Detective.

P.O. Box 1587. 80 & 81, PERMANENT BLDGS. Telegrams: "SLEUTH"

Divorce, Slander, Watching, etc. Delicate negotiations in all parts of the world. Consultations Free.

	No. of stamps treated.	Tons	Yield ozs.	Value. £
Pondo (F. C. Luxat) .....	5 III	1,015	131.97	547
Do. (sands) .....	—	550	42.14	175
Renyle (A. and B. Synd.) .....	5	75	—	—
Do. (sands) .....	—	750	10.41	167
Scientis (B. Bertoldi) .....	3	90	65.88	275
Schukwe Colum. G.M. Ltd., Danga 10	1P	719	187.55	777
Do. (sands) .....	—	303	59.13	245
Wonderland .....	10 1P	685	319.00	1,322
Do. (sands) .....	—	517	100.69	417
Snark (J. G. Walton) .....	5	275	80.45	333
Tabekwe 1 (A. N. Tyrrell) .....	10	930	97.70	405
Taxal (F. C. Luxat) .....	1 II	530	102.50	425
Do. (sands) .....	—	400	38.59	160
Trixie (S. Levin) .....	10	1,007	275.87	1,144
Do. (sands) .....	—	1,280	54.65	227
Val d'or (I. Madham) clean up	5	—	43.93	182
Veracity (L. R. Evans) .....	2	210	115.77	480
Do. (sands) .....	—	174	54.81	227
Verdun (Trib. Syndicate) .....	5	350	57.50	238
Wait & See (Hughes & Downes) Dec.	(5)	150	11.06	46
Do. (sands) .....	—	100	3.30	34
Wait & See (Hughes & Downes) Jan.	(5)	200	20.43	85
Do. (sands) .....	—	200	4.32	18
Wahus (J. Jones) .....	6	100	50.15	203
Wandeter (Schukwe) G.M., Ltd.	4 GR	11,600	1,248.40	5,175
Zabonkwe (Holmes & Vriehart)	5	840	177.41	735
Do. (sands) .....	—	—	—	—
<b>Gwelo District total</b>			<b>20,937.87</b>	<b>83,050</b>

MASHONALAND.

HARTLEY DISTRICT—

Acorn (Anzac Synd.) .....	5	520	211.51	877
Do. (sands) .....	—	343	51.18	212
Alexandra (Alexandra Synd.) .....	2	165	125.26	511
Arandzer (Koir & Rooke) .....	10	960	52.63	213
Do. (sands) .....	—	960	131.90	754
Alphen & Gueph (J. & M. Davidson)	3	123	21.62	90
Aeroplane A. Grimes) .....	3	41	13.50	56
Baltimore & Virginia (P. A. Enke)	5	233	18.23	75
Brilliant (S. L. Synd.) slimes	—	603	75.00	311
Buffalo (E. A. Begbie) .....	5	600	104.59	433
Boomerang (Boomerang Synd.) .....	2	40	28.22	117
Cam & Motor G.M. Co., Ltd. ....	RP	12,180	4,079.02	17,295
Campania (G. C. Hooper) .....	3	459	32.48	135
Do. (sands) .....	—	459	122.64	508
Do. (slags) .....	—	—	9.67	29
Challenge (J. E. Ponton) .....	2	185	65.80	273
Clif (H. F. Wilson) .....	5	95	17.77	74
Criterion (J. M. Flander & Co.)	5	100	15.13	63
Dalry IW (Macdonald & Sale) ...	C	1,525	54.42	225
Do. (sands) .....	—	1,525	131.50	545
Dawn (Arrow Synd.) .....	5	546	61.85	256
Do. (sands) .....	—	—	270	9.55
Dreadnought (W. E. Masters) clean up	—	—	25.02	104
Effel Blue (Willoughby Con. Co., Limited)	10	1,493	564.43	2,340
Do. (sands) .....	—	—	370	25.18
Eil on Allah Min. Co., Ltd.	12X 2I	4,121	534.26	2,215
Do. (sands) .....	—	5,348	1,112.53	4,612
Do. (slags) .....	—	4	51.86	207
Emey Ext. (E. G. Goodyer) .....	5	460	92.04	381
Do. (sands) .....	—	350	29.61	123
Giant Mines of Rhodesia, Ltd. ....	30 2T	7,000	811.55	3,442
Glasgow Mines, Ltd. ....	5	499	160.05	663
Do. (sands) .....	—	196	53.80	223
Glencairn (Pickstone G.M., Ltd.)	5	671	394.80	1,595
Do. (sands) .....	—	456	90.66	376
Glendarra Ext. (Glendarra Synd. - December)	5	340	40.94	170
January .....	5 C	712	76.94	319
Golden Donkey (Golden Donkey Syn.)	2	30	7.22	30
Golden Valley (J. Mack & Co.) .....	10	1,285	570.61	2,365
Do. (sands) .....	—	805	125.68	521
Inkeramm (I. J. Minnaar) .....	5	520	121.07	502
Do. (sands) .....	—	400	56.47	234
Jessie (Webster & Beangstrom)	2	225	63.46	263
Just in Time (Just in Time G.M. Co., Ltd.), December	2	246	163.90	679
Do. (sands) .....	—	257	156.33	648
Kanyemba (Kanyemba Synd.) .....	10	680	186.49	775
Do. (sands) .....	—	630	119.32	495
Mountain Dew (Boomerang Synd.)	5	470	103.71	451
Natta (S. H. Hemlock) .....	5	663	45.06	137
Owl (V. Rolfe) .....	10	1,601	871.85	3,627
Do. (sands) .....	—	1,501	325.19	1,340
Do. (slags and slimes) .....	—	—	111.15	414
Owl Extn. (Crybb and Secar) .....	10	1,430	316.84	1,313
Do. (sands) .....	—	1,178	76.92	319
Pomposo (J. Knott) .....	2N	189	46.03	191

	No. of stamps treated.	Tons	Yield. oza	Value £
Redvers (S. L. Synd.) .....	5	52	32.24	134
Do. (sands) .....	—	—	30	17.73
Revie (R. R. Aitken) .....	5	750	124.92	518
Do. (sands) .....	—	600	103.57	429
Shepherd's Phoenician (R) Co., Ltd.	5 1P	630	73.50	305
Do. (sands) .....	—	630	41.03	170
St. Kilda E. (C. E. Simpson) sands	—	800	33.21	138
Thisbe Etna G.M., Ltd. ....	C	235	110.43	456
Do. (sands) .....	—	739	150.07	623
What (Cheer (H. Moser) .....	10	760	319.14	1,323
Do. (sands) .....	—	—	65.17	270
<b>Hartley District total</b>			<b>14,061.75</b>	<b>58,313</b>

LOMAGUNDI DISTRICT—

Angwa C (F. L. Standen) .....	5	715	85.36	351
Ayishire (J. Perhat) .....	5	200	21.97	91
Chiringa (Chiringa Syndicate) ...	5	650	69.18	287
Do. (sands) .....	—	540	14.68	61
Crescent (Crescent Syndicate) Falcon M	M	46	9.17	37
Dalton (F. H. Dalton) .....	3	30	30.51	129
Eldorado Banket G.M. Co., Ltd. 20 1C4P	4,017	1,754.74	7,570	
Do. (sands) .....	—	4,411	619.91	2,604
Golden Kopje Prop. Mines, Ltd. 40 2P	6,150	477.04	2,094	
Do. (slimes) .....	—	6,150	977.39	4,105
Maggie-mac (J. McMurdou) .....	2	250	119.41	495
Mediterranean (Schley & Smith) .....	2	52	13.42	55
White Horse (Hinge & Harding) .....	2	146	31.24	129
<b>Lomagundi District Total</b>			<b>4,224.02</b>	<b>17,713</b>

MAZOE DISTRICT—

Black A (Black Mine Syndicate) .....	5	100	19.91	82
Botha H. (C. R. Kirkpatrick) ....	II	393	16.14	67
Do. (sands) .....	—	310	20.35	84
Chin (Arrow Synd., Ltd.) .....	5 1P	543	81.64	347
Do. (sands) .....	—	543	57.36	236
Day Dawn (Day Dawn Trib.) .....	2	123	70.61	294
Do. (sands) .....	—	175	35.66	144
Duke of Cornwall (Micky Synd.) .....	2	423	358.42	1,486
Jumbo G.M. Co., Ltd. (sands) .....	—	1,000	159.64	662
Kimberley (Mash.) G.M. Co., Ltd. 3N2T	4,650	1,109.93	4,707	
Do. (sands) .....	—	4,100	274.23	1,163
Kingsley Hoard (A. S. Warwick) .....	5	685	77.59	322
Do. (sands) .....	—	210	8.95	27
Mildred (Rose and Cooke) .....	2	160	32.51	135
Mitre 8 (E. W. L. Noaks) .....	2	96	79.29	329
Do. (sands) .....	—	76	31.08	129
Moffat (J. G. Douglas) .....	2	73	20.49	85
Promoter 1 (F. C. Croxford) .....	C	2,424	61.65	255
Promoter (B. H. Jones) sands .....	—	2,020	88.44	366
Peveril of Peak (Mrs. H. C. Southey) 2	30	6.17	25	
Rosa .....	2	440	53.85	223
Do. (sands) .....	—	636	59.57	247
S.D.C. (Insol. Est. H. S. Plant) .....	2II	932	63.65	261
Shasi 1 (Shashi Synd.) .....	2	71	15.23	63
Venus (L. W. Southey) .....	2	27	14.00	56
Vesuvius C. (Cunningham and Allison) .....	21P	430	141.90	583
Do. (sands) .....	—	500	88.87	369
<b>Mazoe District Total</b>			<b>3,047.13</b>	<b>12,772</b>

'Phone 4673.

Box 3162.

# OSBORN'S

## "TITAN" MANGANESE

# CASTINGS.

Write or 'Phone for Stock List.

**SAMUEL OSBORN & Co., Ltd., SHEFFIELD and JOHANNESBURG.**

	No. of shafts treated	Tons	Yield tons	Value £
<b>SALISBURY DISTRICT—</b>				
Almas (P. Zaffers)	5	150	215.79	917
Almas (Johnson and Hand)	5	50	35.40	36
Batavia (New Batavia G.M. Co.)	10	797	589.15	1,561
Do. (sands)	—	360	64.62	76
Ceylon (Ceylon Mines Synd. Ltd. slags)	—	—	6.29	26
Joker (R. L. Munn) sand	—	98	11.66	18
Joking (Harrison and Drabble)	5	530	123.57	1,776
Do. (sands)	—	390	99.90	375
Kamkanye (Hofford and Brodie)	5	150	16.20	20
Olympus (Olympus G.M. Synd. L. December)	5	560	90.11	3.3
Do. (sands)	—	210	21.79	9.0
Pens. Mozzell (Planet Mine Trib.)	10 2P	127	22.62	91
Do. (sands)	—	127	25.09	101
Planet (Planet Trib. Synd.)	10 2P	897	239.49	995
Do. (sands)	—	197	254.93	1,075
Radnor I (Radnor Mines, Ltd.)	5 2P	1,508	392.65	1,626
Shamva Mines, Ltd.	56N 9T	14,914	2,896.90	12,167
Do. (sands)	—	25,359	—	—
Do. (slimes)	—	19,270	4,160.69	10,735
Do. (slags)	—	—	—	—
Southern Cross (Arab Synd.)	2	44	18.11	75
Tuo (Tuo Synd.)	5	245	154.29	639
Other Sources (October, 1916)	—	—	12.15	52
<b>Salisbury District total</b>	—	—	<b>9,815.91</b>	<b>41,155</b>

<b>UNTALI DISTRICT—</b>				
Bessie (J. Buchanan)	5	972	40.19	168
Do. (sands)	—	—	972	148.64
Florence (R. P. Synd.)	(5)	168	21.21	100
Golden Adelaide (R. P. Synd.)	5	300	15.76	65
Golden Gate DB (Meikle & Davis) sands	—	2,400	83.28	315
Tona (Meikle & Davis) W'fall Mill	—	107	21.84	91
Kent Mines, Ltd.	10	812	207.36	860
Do. (sands)	—	—	812	108.00
Liverpool (R. G. Snodgrass)	—	560	70.19	291
Do. (sands)	—	215	27.44	114
Morning Star (Chappell & Hall)	(2)	55	5.25	22
Quagga (T. D. Maclean)	5	675	54.38	226
Rezeude Mines, Ltd.	40	1,900	596.94	2,533
Do. (sands)	—	3,557	331.48	1,106
Do. (slimes)	—	1,596	111.25	472
Do. (concentrates)	—	110	286.00	1,213
Do. (pots and slags)	—	—	23.77	101
Retreat (Retreat Synd.)	5	225	14.19	60
Suipe (Suipe Synd.)	5	41	7.32	30
Two Sisters (Mrs. Harris) sands Dec.	—	210	24.86	103
Do. (Jan.)	2	25	7.96	33
Virginia (J. D. Maclean) sands	—	150	30.97	128
Western (J. Meikle) W'fall Mill	—	108	40.90	176
<b>Untali District Total</b>	—	—	<b>2,282.48</b>	<b>9,593</b>

<b>VICTORIA DISTRICT—</b>				
Dickens (Dickens Synd.)	2	295	306.48	1,270
Empress (S.A. Pros. & Con. Synd.)	8	1,460	130.92	543
Do. (sands)	—	810	—	—
Do. (slimes)	—	620	89.82	372
Sunbeam (S. A. Taylor) sands	—	650	35.00	145
Texas (Victoria Mines, Ltd.)	10	1,000	189.61	786
Do. (sands)	—	750	123.66	513
<b>Victoria District Total</b>	—	—	<b>875.49</b>	<b>3,621</b>

(P) Grinding Pan; (BM) Ball Mill; (T) Tube Mill; (H) Huntington Mill; (GR) Gates Rolls; (B) Ball Mill; (Pn) Pneumatic Stamp; (N) Nissen Stamp; (C) Chilean Mill; (RP) Roasting Plant.

<b>ASBESTOS.</b>		
	Tons	Value
<b>BELWAND DISTRICT—</b>		
Birthday A (N. Moore)	100	£1,400 0 0
Birthday C (M. L. R. Lombard)	50	250 0 0
Ad Valorem (W. R. Lombard)	19.75	395 0 0
Nil Deperandum (E. Macbell)	15	300 0 0
Shabane A (C. Hunterland G.F. & F. Co.)	190.50	3,041 16 0
Adjustment on previous declarations	11.71	234 16 0
<b>GWATO DISTRICT</b>		
Waterback (Waterback Synd.)	500	10 0 0
<b>VICTORIA DISTRICT</b>		
Radnam (P. T. Hood)	19.00	2 0 0
King Asbestos (Rhod), Ltd.	240.00	3,840 0 0
Victoria (R. A. Asbestos, Ltd.)	169.18	2,706 17 11
Regina (P. A. Nightingale)	12.60	201 12 0
	<b>811.82</b>	<b>£12,937 1 11</b>

<b>SUMMARY OF PRODUCTION.</b>		
	Value	Value
Gold, ounces	70,844.07	£296,112
Silver, ounces	47,619.16	1,933
Coal (Waukie Colliery) tons	12,230	10,148
Copper (blister) tons	322.12	32,829
Chrome iron, tons	10,131.12	44,728
Asbestos (fibre), tons	814.82	12,937
Ironstone, tons	291.72	37
Diamonds, carats	295	85
		<b>£398,809</b>

<b>COMPARISONS.</b>		
	Ounces	Value
January, 1917	70,844.07	£296,112
December, 1916	69,201	396,201
Increase	1,643	£61,018
<b>GOLD OUTPUT—</b>		
January, 1917	70,844.07	£296,112
December, 1916	69,201	396,201
Increase	1,643	£10,092
<b>GOLD OUTPUT—</b>		
January, 1916	69,201	£318,586
January, 1917	70,844.07	296,112
Increase	1,643	£22,474

**German Diamond Insurance Offer.**

Amsterdam, 8th January.—The *Hollandshad* reports that a syndicate of German insurance agents offered to an association of diamond dealers at Scheveningen, some of whom are on the British black list, to insure against capture at the rate of 11 per cent, a quantity of cut diamonds valued at one million marks. The diamonds are to be conveyed to America by a commercial submarine, which will be commanded by Captain Koenig. The paper expresses surprise that the dealers should be able to afford such a high insurance rate on diamonds which are from German East (?) Africa.—*Central News.*

**Science and the Copper Output.**

When the abnormal demand for copper shall cease, many of the producing mines, which at present are earning profits owing to the high price of the metal, will be compelled to shut down. But a tremendous output will still be possible, in consequence of the manner in which science has been brought to bear upon the recovery. The Anaconda Co., by utilising the flotation process, has increased its extraction from 76 p.c. to 92 p.c., a very remarkable achievement. At the Calumet and Hecla regrading and leaching are expected to cut the losses in the copper sands down to such a small figure that 95 p.c. of the metal will be obtained from the rock, whereas a 50 p.c. loss was regarded as nothing exceptional the early days. Another point is, of course, that a lower grade of ore is brought within the range of profitable treatment.

**COPYING & REPRODUCTION OF DRAWINGS.**

Drawings, Tracings, Blue-prints, Pencil Sketches, Documents, Bills of Quantities, etc., copied by a photographic process, reduced, enlarged or actual size.

Prices and Samples submitted on application to—  
**THE PHOTOSTAT COMPANY,**  
26, Harrison Street, Johannesburg.

**F. HOPPERT,** Only at 86, MARSHALL ST., JOHANNESBURG.

**ELECTRICAL & MECHANICAL ENGINEERS.**  
For Magnetos and Electrical Ignitions.

Repairs to Gas Plants and all work requiring the highest skill.

P.O. Box 3503.

Phone 3130






**FLOWER BRAND MAGNOLIA METAL**

—HAS—

**Co-Efficient of Friction from 33 $\frac{1}{3}$ % to 50%  
lower than any other Anti-Friction Metal.**

**MAGNOLIA ANTI-FRICTION METAL CO. of G. BRITAIN, Ltd., 49, Queen Victoria St., London, E.C.**

**Sole Agents for South Africa : FRASER & CHALMERS, LTD., Johannesburg, Bulawayo & Salisbury.**

## Engineering Notes and News.

### THE "LESSER" INVENTIONS.

Details of Patents About to be Exploited by the "Lesser Minerals Trust, Ltd."

At a meeting of interested parties held in Pretoria this week, it was decided to form a company to be called the "Lesser Minerals Trust, Ltd.," for the purpose of exploiting the "Lesser" inventions which are described in the following report by the company's engineer, Mr. E. Kunst. Sir Johannes van Boeschoten and Messrs. A. F. Sievers and C. R. Weavind were appointed to be the first directors of the company, and Messrs. Weavind and Weavind secretaries. In the course of his report to the directors of the company, upon the new "Lesser" concentrator for tin, gold and other ores and diamonds, and other precious stones and also on the new dust collector and air filter for extracting fine dust and foul and poisonous air from any mine, factory or workshop, Mr. Kunst writes:

"For the former Letters Patent in the Union of South Africa have now been obtained, dated the 14th of January, 1917, and these are now in possession of our attorneys. For the latter invention the final application for Letters Patent has been made, and I hope that the Letters Patent will be issued soon. A separate application for Letters Patent is also now being made for the feeder-attachment to the concentrator machine. This is being done owing to the fact that the feeder is now in construction and useful for other machines as well as the concentrator. The concentrator machine now in working order is constructed to separate tin and other ores, gold and diamonds from alluvial sand or soil and gravel by specific gravity by the use of suction air without the use of water. I may mention that for many years engineers have tried to construct a concentrator for the same purpose but without success, and if it had not been for Miss Lesser's idea of extracting the sand from the tin we should not to-day be in a position to discuss the future of your new concentrator. I may further mention here that very large alluvial deposits of various ores, including gold, are to be found in many parts of the Union, but it has always been found impossible to work such deposits owing to the lack of a sufficient water supply. With this concentrator the lack of water will prove no bar to working any deposit and you will readily gather that the future holds immense possibilities for these concentrator machines. The first concentrator machine having been completed the time arrived when this meeting should be convened in order to discuss the formation of a company, but before convening such meeting it was thought possible that the complete proposition might be put before you, and I therefore determined that not only should the machine be completed but the necessary oil engine and the plant required to work the machine should be acquired, and that an option should be executed over a suitable property so that the machine might be brought into working as soon after this meeting as practicable without any further expense to you. With this in view I went to see several propositions in the Waterberg, Barberton, Krugersdorp and Pretoria

districts. I found a payable proposition in the Pretoria district, but could not come to terms on account of the owner's requirements being too high. Recently I have been out with Mr. B. Gaum, who showed me a mine dump on the reef. On passing this dump I found it suitable for your concentrator to treat, and Miss Lesser accordingly secured an option over this dump which is now placed before you for decision. If you decide in favour of exercising the option, the machine can be sent out at once to start operations. I am also busy securing for you one of the richest gold farms in the Transvaal, and so soon as I get the terms I will put them before you for your consideration. The farm has already been under option, but this option we dropped owing to their being no water supply upon the property. No doubt many more machines will be required so soon as the present one is in operation and has demonstrated its possibilities, and arrangements can be made to have such machines made locally. The engineering shops and smithy of Mr. A. Wolff, of Pretoria, are at your disposal as will appear from a letter which I shall hand in. Detailed plans and sketches are ready to start manufacturing machines at once, while all the material required being obtainable in the country the difficulties of sea transport will not interfere with the making of any number. In order to carry out this idea I think a trial should be made by taking on and teaching steady young South Africans who are willing to learn engineering. They should first be placed as learners in the various factories, where they will help to build the machines and could later be sent into the field to look after machines and to act as engineers. The first concentrator is of the largest size; it has a capacity of treating 50 tons of alluvial soil per day and is driven by a 4 h.p. oil engine, the required power being only 2 $\frac{1}{2}$  h.p. There is a very large field for your machines in Southern Africa, and as in places difficulties of transport will have to be overcome I would suggest that also smaller machines be made to be worked by hand power. These machines can be used in places where there is not even sufficient water to keep the engine cool, in which places deposits of various sorts are very rich. I have received many enquiries from persons desirous of purchasing machines and of obtaining the use of the same, and I strongly recommend that Mr. Wolff's offer to manufacture all machines be accepted, so that the supply may meet the demand. As is usually the case this new concentrator idea has also brought into existence your new dust collector and air filter. The great trouble in underground mining has been, and still is, how to get rid of the fine dust causing miners' phthisis. Now, your machines will do all that is required. It will collect all the very fine dust particles in the mine drives and stopes and discharge them from time to time into a space below the dust collector, from where they can be put on to a passing truck. The machine is of a star-cylinder form with a large dust-collecting construction, and can therefore be cheaply built, and one man is able to supervise twenty five such machines. I am fully convinced that by the installation of your new dust collector and air filter in the underground mines on the Rand the problem and the vexed question of this terrible disease "miners' phthisis" will be solved."

### Manicaland Output.

The mineral output of the Territory of the Comandaria de Mocimboa (Manicaland) for the month of January, 1917, is as follows:—Re 1. Mill. Gold won (fine), 161 ozs. 2 dwts. 10 grs.; tons crushed, 653; value, £638 17s. Alhvald. Gold won (fine), 842 ozs. 9 dwts.; cubic metres dredged, 85,000; value, £3,192 5s. 5d.

### Zaaiplaats Tin.

The results for the month of January, 1917, were as follows:—Days run, 31; ore milled, 2,063 short tons; residues re-treated, nil; concentrates won, 31 long tons, average value of concentrates, 71 per cent. M.T.; estimated profit for the month, excluding Government taxes on profits, £602 14s.; add adjustments in respect of estimated values on previous shipments, £177 12s. 2d.; profit declared for the month, £780 6s. 2d.; capital expenditure, £36 11s. 8d. Note: Revenue for the month has been calculated on the basis of tin at £190 per ton. Scarcity of native labour still continues, but an early improvement in the supply is expected.

### New Patents.

22. William Dall.—Improved single notch fence posts and droppers.
23. Duncan McEwing Patrick.—Improvements in anti creeping devices for railway tracks.
24. Thomas Derby.—A hygienic economising automatic crane.
25. Charles Brown.—Improvements in or relating to railway sleepers.
26. Johannes Lorentz Mouritzen.—Improvements in circular and like brickwork structures.
27. Christer Peter Sandberg.—An improved method of treating steel.
28. Lambertus Albertus van Heerden.—Cure for horse sickness, black water disease, and the like.
29. Samuel Russell.—Improvements in linings for tube mills.



Pittsburgh Steel Company  
Pittsburgh, Pennsylvania, U. S. A.

Manufacturers of  
"PITTSBURGH PERFECT"

## Open Hearth Steel Products

INCLUDING

Galvanized Wire Bright Nail Wire  
Annealed Wire Bright Hard Wire  
Varnished Wire Bright Soft Wire  
Bolt and Rivet Wire  
Galvanized Barbed Wire  
Wire Nails Fence Staples

Pig Iron, Blooms, Billets, Wire  
Rods, Hard Spring Coil Wire,  
Twisted Cable Wire, Telephone  
Wire, Bale Ties, Steel Hoops, Steel  
Bands, Cotton Ties and Fabricated  
Stock, Poultry and Lawn Fencing.

We are prepared to give *PROMPT SERVICE*, and solicit  
your inquiries accompanied by complete specifications.

Address

**PITTSBURGH STEEL COMPANY**

EXPORT DEPARTMENT  
EQUITABLE BUILDING

NEW YORK, U. S. A.

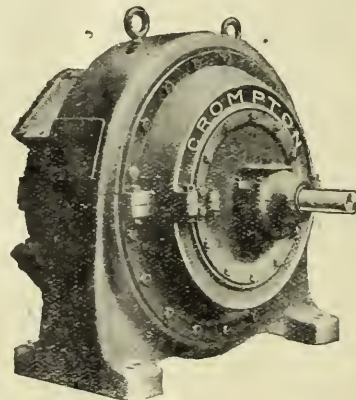
Cable Address: "PITTSTEEL"

## Electric Power in Mines.

WE are in an exceptional position to supply and install **Complete Plants** for the **Electrification of Mines**. We have on our staff Expert Engineers who have successfully equipped and reorganised the power arrangements of some of the largest mines in the world.

We Manufacture:

ALTERNATORS, DYNAMOS, MOTORS, SWITCH-  
GEAR, ARC LAMPS, SEARCHLIGHT PROJECTORS  
FOR SURFACE MINING, INSTRUMENTS, PRINTING  
PRESS CONTROLLERS, &c., &c.



Write us your requirements, and we will advise you as to the best means of meeting them.

# CROMPTON & CO. LTD.

SALISBURY HOUSE, LONDON WALL, LONDON,  
ENGLAND.

Works: CHELMSFORD, ENGLAND.

Agents: S. SYKES & Co., Ltd., P.O. Box 2303, Southern Life Buildings, JOHANNESBURG

## THE WEEK IN THE MINING MATERIAL AND ENGINEERING TRADES.

### Only Essentials Can Be Exported From Great Britain—The Mining Trade Outlook—Timber and Building Material—The Electrical Position.

THE question of imports from Great Britain is the one absorbing topic throughout mining and commercial circles. The broad instructions are that only essentials will be allowed to leave Britain, and the Johannesburg Committee connected with the Chamber of Mines reviewing the requisitions, will only recommend a limited number of articles, and so far as can be ascertained the idea is based on restriction almost to the extreme. Hopes are entertained that circumstances may allow the list to be enlarged from time to time, but at this stage everything is problematical, which seems to be the case in London, as a cable from there stated that a certain line was on the prohibited list and could only be sent under licence, and the shippers went on to say: "We are unable yet to state how far these (licences) will be obtainable." The significance of the remarks in inverted commas is that the definite procedure is in the melting pot, and the eventual results must depend upon the shipping available. The consensus of opinion of importers is that we can only expect about a third of the shipping for South Africa as compared with a year ago. The essentials from this side for export are foodstuffs, and already arrangements are in progress to export a cargo of meat and butter, to be filled up with maize and wool.

#### WHAT ARE ESSENTIALS?

It is only possible to give a few ideas of what are essentials. A merchant who keeps himself well abreast of commercial news, states that members of the Exchange may tender as a matter of course, for the buyers' requirements. However, the successful tenderer will be the only one allowed to approach the Committee for a recommendation that the particular goods tendered for should be placed in Class B. of the British export list, which means that they may be allowed to come when convenient to the manufacturer and in accordance with the shipping facilities. Another important condition is that the goods must be sent direct to the mine, and not to the importers' stores, to avoid any additional supplies, under that particular order, creeping through to the merchant's stocks. It is understood that the present procedure is that the original tender must be endorsed by the purchasing mine before the committee here will consider the application, for endorsement to the Committee in London. As before remarked, the question as to what are essentials is in the melting pot; however, a few hints may be given to enable traders to form some kind of basis of the preliminary stages. For example, the hob nails in miners' boots have been questioned, and so far that matter has been shelved for future consideration. As apart from mining requirements, take the case of the blanketing required in laundry machinery: these are not considered essential, therefore cannot be recommended for the B. list. Obviously they are very essential to the ordinary laundry business, but not of sufficient importance to sustain the public health and so perhaps crowd out medicines and such like everyday necessaries as well as materials for the producing mines.

#### THE MINING TRADE OUTLOOK.

The restrictions referred to in the previous paragraph have not created anything like alarm, as people have now become so accustomed to fresh happenings that they are taken much as a matter of course. However, the comparative few who practically control the imports are not a little concerned as to the future supplies from overseas. For example, notwithstanding the good supplies held by the mines, they come into the market very freely on the turn of this month, as the buyers are anxious to keep up stores providing the local prices are not unduly inflated. The Municipalities and Government departments are at work on similar lines, hence a shortening of merchants' stocks,

which is coupled with the fact that it is problematical when and how these stocks are to be replenished. Of course, the fortunate possessors of stocks are in somewhat of an enviable position, as compared with those representatives who depend upon fresh arrivals from overseas. In this connection, it was forcibly remarked that those without stocks had better look around to obtain goods from other sources than Great Britain, at all events for the next few months whilst the strenuous war conditions prevail. America at the moment seems a poor reed to depend on, as it is officially admitted that much of their shipping is timidly locked up in their harbours, although there are indications that America will soon move to relieve the acute position, by their Government arming and protecting their merchandise, also adopting a similar war insurance policy as the British Government introduced a long while ago. In addition to America there are Canada, Australia and Japan to be drawn upon. The last country has so far been under a cloud in regard to the direct communication, in delivering goods from the factories in Japan to South Africa. It appears that in the early days of the war, a few of the more enterprising British merchants secured the output from some of the Japanese factories, and had them sent to Great Britain direct, from where they were re-exported, but now there are several Japanese representatives in Johannesburg and Capetown, which no doubt will soon improve the direct trading to South Africa.

#### THE ELECTRICAL TRADE POSITION.

The sudden stoppage of new electrical connections by the Johannesburg Municipality has given rise to the idea that relief may be obtained from the Victoria Falls Power Company. In the meantime the Municipality is adamant. For example, an estate company, which had been negotiating before the stoppage, wanted four cottages supplied with electric light, and they were not only willing to pay the ordinary charges but any extra owing to the increased cost of materials, but the several answers have been that the town's cables and transformers are loaded up to the full. The Municipal authorities had reached their limits in anticipation of the new power plant, ordered in Britain, arriving shortly, but now this has been refused a permit, therefore there is no alternative but to stop new connections. It stands to reason that the Johannesburg Municipality will not remain dormant, but will look around to see what can be done to obtain the necessary power plant from other sources, as the stoppage of electrical connections will hamper building operations very considerably, as no up-to-date shop or residence can be considered complete without electric light. We cannot expect much relief from America, as their standard gauges for plant do not always fit in with that in use here. As regards Japan they have not got over the initial troubles of catering for a new market. What happened over a year ago was that travellers offered our merchants a nice lot of Japanese assorted electrical ware, from samples, at prices that had never been heard of before in Johannesburg, but these goods have not yet materialised. However, a Birmingham house has recently supplied Johannesburg with Japanese electrical goods, but the cost is about four times as much as originally quoted from Japan. However, there is a Japanese house of representatives established in Capetown, and it is said that representatives in Johannesburg are now guaranteeing or promising direct deliveries from Japan, delivery c.i.f. Durban, which would soon enable our Municipality to carry on, much as usual. In the ordinary way the engineering shops in Johannesburg are doing a lot of electrical work, chiefly in re-fixing and re-making, rather than new work, although quite a creditable quantity of the latter is made when specially ordered and paid for at a price about five times higher than the imported, but obviously when things are wanted and must

be had, the price is a secondary matter. Until about six months ago, the stock of electric lamps were in plenty, but now the wholesale prices have risen, and the cheapest retail price for the ordinary house lamp is two shillings. On the whole, supplies of ordinary electrical goods are plentiful, but the exceptions are always with us and these seem enlarging of late. For example, 3/20 coils of wire have sharply risen to 30s., but within two sizes different, viz., 3/22, which can be had at 21s. 6d. There is a great shortage of heavy copper wire and cables in merchants' stores, but the mines have plenty. The smaller sizes of wire and cables, from a general standpoint, seem to be amply available.

#### TIMBER AND BUILDING MATERIALS.

The new permit regulations will not effect timber, as we do not get any from Great Britain. There has just arrived at the coast from India a decent-sized consignment of teak for the use of Johannesburg furniture makers. Several lots of Oregon pine have recently been received, and more should be on the way, but nothing definite can be ascertained. In the meantime there are very fair stocks of timber of all kinds on hand in Johannesburg, with prices the same, which in a measure is accounted for by the decided check in building operations in Johannesburg on account of the electric light difficulty with the stoppage of new connections. The factory at Denver for making doors, windows, and a general assortment of builders' fittings, is extending its area, as consignments are constantly being sent to the Northern Transvaal, Orange Free State, and occasionally to German West, as well as other outlying districts. The demands for builders' ironmongery chiefly come from the Eastern Transvaal, as buildings in that part are still going forward. In fact, the building societies are lending more in that district than any other, at the present time.

#### VARIOUS TRADE ITEMS.

Oils and colours have advanced all round, and brushware from five to ten per cent. Importers are in a quandary in reference to the new regulations, hence very fair business is passing with builders and others to secure reasonable stocks. The Natal coalfields have secured rather large quantities of general stocks from Johannesburg during the week. A traveller visiting another section of mines, as compared with a previous journey, reports very similarly as to the large stocks noticeable at the mine stores, especially the quantities of bar iron, drill steel and battery spares. In fact, the traveller in question went out to sell battery spares, but he met with very little success.

#### REVISED PRICE LIST.

Approximate war prices, subject to quick change.—Mining and building hardware: Iron, imported,  $\frac{1}{4}$  round, 40s.; up to 1 in., 32s. 6d.; 2 in. to 6 in., 27s. 6d. per 100 lbs. Ditto, square, up to 1 in., 27s. 6d.;  $1\frac{1}{2}$  in. to  $2\frac{1}{4}$  in., 25s.;  $2\frac{1}{2}$  in. to 5 in., 25s. Flats, 3-16 in., 37s. 6d.; all from  $\frac{1}{4}$  in. up, 35s. Angles,  $\frac{1}{2}$  in. to 3-16 in., 40s.;  $\frac{1}{4}$  in., 40s.; 5-16 in. to  $\frac{3}{4}$  in., 30s., excepting 5 x 4 x  $\frac{3}{8}$  in.; mild steel bar,  $1\frac{1}{4}$  d. lb.; drill,  $7\frac{1}{2}$  d. lb.; steel plates, 10ft. by 4ft. by 1-16th in., 35s.;  $\frac{3}{8}$  in. by 3-16th in., 32s. 6d.;  $\frac{1}{2}$  in. to 5-16th in., 31s.;  $\frac{3}{4}$  in., up to 30s.; 10ft. by 5ft. by 1-16th in., 36s. 6d.;  $\frac{1}{2}$  in. and 3-16th in., 64s.;  $\frac{1}{4}$  in. to 5-16th in., 32s. 6d.;  $\frac{3}{8}$  in., up to 31s. 6d.; intermediate sizes up to 12ft. by 6ft. by 1-16th in., 37s.;  $\frac{1}{2}$  in. and 3-16th in., 34s. 6d.;  $\frac{1}{4}$  in. and 5-16th in., 33s.;  $\frac{3}{8}$  in. and up, 32s., all at per 100lb.; hexagon and euphead bolts,  $\frac{1}{4}$  in. dia., 1s. 9d. lb.; 5-16in. dia., 1s. 6d. lb.;  $\frac{3}{8}$  in. dia., up to 3in. long, 1s. lb.;  $\frac{1}{2}$  in. dia., 11d.;  $\frac{3}{4}$  in. and up long, 11d. lb.;  $\frac{1}{2}$  in. dia. up to  $2\frac{1}{2}$  in. long, 62s. 6d. 100 lbs.;  $\frac{1}{4}$  in. dia. and  $2\frac{3}{4}$  in. up long, 60s. 100lbs.;  $\frac{3}{8}$  in. dia. up to  $2\frac{1}{2}$  in. long, 55s. 100 lbs.;  $\frac{1}{2}$  in. dia.  $2\frac{3}{4}$  in. and up long, 52s. 6d. 100 lbs.;  $\frac{3}{4}$  in. dia. up to  $2\frac{1}{2}$  in. long, 52s. 6d. 100 lbs.;  $\frac{1}{2}$  in. dia.  $2\frac{3}{4}$  in. and up long, 50s. 100 lbs.;  $\frac{3}{8}$  in. and lin. dia., same price as  $\frac{1}{2}$  in. diameter; nuts,  $\frac{3}{8}$  in., 1s. 3d. lb.;  $\frac{1}{2}$  in., 65s.;  $\frac{3}{4}$  in., to  $1\frac{1}{2}$  in., 62s. 6d.;  $1\frac{3}{8}$  in. and  $1\frac{1}{2}$  in., 70s.;  $1\frac{3}{4}$  in. to  $1\frac{1}{2}$  in., 75s.; 2in. up, 85s.; washers, all sizes, 45s.; rivets, 3-16in., 1s. 6d. lb.;  $\frac{1}{2}$  in., 5-16in., 1s. 3d. lb.; 7-16in.,  $\frac{3}{8}$  in.,  $9\frac{1}{2}$  d. lb.;  $\frac{1}{2}$  in., 52s. 6d.;  $\frac{3}{8}$  in., 50s.;  $\frac{1}{4}$  in. up, 49s. 100 lbs.; shoes and dies, 32s. 6d. to 35s. per 100 lbs.; rails, £23 per ton; picks, 4lbs., 27s. per doz.; shovels, 32s.

6d. to 50s. per dozen, drill hammers, 5 $\frac{1}{2}$  d. lb. to 6d. lb.; hammer handles (best American), 14 in., 3s. 6d., 24 in., 7s., 30 in., 9s. 6d., 36 in., 13s., per dozen; metal, anti-friction, 1s. per lb.; galvanised iron, 24 gauge, 6 ft. to 10 ft., 1s. 1d., 11 ft. 1s. 1 $\frac{1}{2}$  d., 12 ft. 1s. 1 $\frac{1}{2}$  d.; 26 gauge, 6 ft. to 8 ft. 9 $\frac{1}{2}$  d.; 9 ft. and 10 ft., 9 $\frac{1}{2}$  d.; flat galvanised, 18 to 24 gauge, 10s.; 26 gauge, 12s. 6d. 100 lbs.; floor brads, 10s.; ceiling, 12s. 6d.; wire nails, 37s. 6d. to 55s. per 100 lbs.; solder, 50 per cent., 1s. 3d. per lb.; locks, rim, 48s.; mortice, 60s. dozen; barbed wire, 26s. to 30s. 100 lb. coil.

Timber: Deals, Baltic, 9 x 3, short and medium, 1s. 1 $\frac{1}{2}$  d.; longer lengths, 1s. 2 $\frac{1}{2}$  d. to 1s. 3d. (Oregon, 1s. 1d.); flooring,  $1\frac{1}{2}$  x  $\frac{3}{4}$  and 6 x  $\frac{3}{4}$ , 6 $\frac{1}{2}$  d. per sq. ft.; do.,  $4\frac{1}{2}$  x  $1\frac{1}{4}$ , 9 $\frac{1}{2}$  d.; and 6 x  $1\frac{1}{4}$ , 9 $\frac{1}{2}$  d.; ceilings, 6 x  $\frac{1}{2}$ , 3 $\frac{1}{2}$  d. to 3 $\frac{1}{2}$  d. per sq. ft.; Oregon, 4 x  $\frac{1}{2}$ , 1 $\frac{1}{2}$  d.; pitch pine, 8s. per cub. ft.; Oregon, 5s. 9d. to 6s. per cub. ft.; clear pine,  $\frac{1}{2}$  in. x 12 in., 7 $\frac{1}{2}$  d. per ft.; fir, x 12in., 9d. to 10d.; teak, small planks, 14s. 9d. per cub. ft.; do., large, 15s. 6d.; jarrah, 9s. 6d. per cub. ft.; poplar, 1 in. x 12 in., 10d.; scantling, 1s. 1d. to 1s. 2d. per ft., 3 x 9.

Bricks, cement, lime, etc.: Cement, nominal, 34s. 6d. per cask; Pretoria Portland, 9s. 3d. per bag; 8s. 3d., truck loads; lime, white, 7s. 9d.; truck loads, 6s. 9d.; slaked, do., 5s.; blue, 3s. 3d.; plaster lime, 4s.; bricks, stock, delivered, 37s. 6d. to 45s.; wire cuts, 50s. to 70s., pressed 70s. to 80s. per 1,000, road transport difficult to obtain; salt and white glazed bricks, £27 10s. per 1,000; tiles, roofing, £17 $\frac{1}{2}$  square; glazed tiles, 10s. 6d. to 17s. 6d. yard; paving cement tiles, 8s. 6d. yard laid; terra cotta tiles, £15 per 1,000; reinforced concrete columns, 6 ft. plain, 22s. 6d., fluted, 24s.; fireclay bricks, £9 $\frac{1}{2}$ , good average, per 1,000; clay chimney pots, 80s. per doz.; fire clay, 37s. 6d. ton on rail.

Oils, paints, lead, oxides, glass: Linseed, raw and boiled, 32s. 6d. per 5 galls.; white lead, 74s. to 75s. per 100 lbs.; turpentine, 54s. per 2 4 galls.; 10 1, 59s. 6d.; coal tar, imported, 10s. to 12s. 6d. per 5 galls.; oxide in oil, 36s. per 100 lbs.; dry oxide, 21s. to 22s. 6d.; S.A. crude oxide, 12s. 6d.; linseed oil putty, 4s. 6d. per 12 $\frac{1}{2}$  lbs.; bladders, 36s. casks of 100lbs.; grease A.F. axle, 23s. 6d. to 25s. per 100 lbs.; tallow, 1s. per lb.; White Rose paraffin, 17s. 3d. 2/5; Laurel do., 17s.; petrol, 27s. 6d. 2/4; motor oil, 6s. to 7s. 9d. per gall.; engine lubricating oils, 25s. to 36s. 6d. per case; cylinder, 26s. to 40s.; paints in tins, 10d. to 1s. per lb., according to quantity, and if ordered to be mixed, 20 per cent. on pre-war rates. British plate-glass, 3in., 3s. 6d.; do., mirror, 4s. 6d.; window, 16oz., 1s. to 1s. 3d. foot.

Chemicals: Mercury, £22 per 75 lb. bottle; bichromate potash, 3s. 6d. lb.; chlorate, 3s. lb.; permanganate, 10s. 6d. lb.; alum, 5d. lb.; carbonic acid, 6s. 6d. lb.; borax, 87s. 6d. 100 lbs.; cyanide soda, 1s. 5d. lb.; hypo, 9d. lb.; acetate lead, 75s. 100 lbs.; litharge (assay) 70s., (commercial) 57s. 6d. 100 lbs.; zinc sheets and blocks, 1s. 6d. lb.; plumbago crucibles, 5d. per number.

Electrical Goods: Lamps, high volts., British, Holland & American, 18s. to 21s. wholesale, and 24s. to 30s. dozen, retail; carbon lamps, 7s. 6d. per doz.; pure rubber flex, 5d. to 6d. per yard; 3/20 coils of wire, 30s.; do., 3/22, 21s. 6d.; tubing, 14s. to 15s. 100 ft.; keyholders, 4s. 6d. to 5s. each; round blocks, 3 $\frac{1}{2}$  in., 3s. 6d. doz.; lamp holder cord grips, 13s. 6d. to 14s. 6d. doz.; switches, 5 amp., 17s. 6d. to 20s. doz.; British glass shades, 24s. to 36s. doz.; Bohemian shades finished; porcelain shackles, 14s. 6d. doz.; do., bobbins, 10s. to 12s. per 100; cleats, 18s. per 100; P.O. insulators, 18s.; motor, 3 h.p., about £30 to £35, new.

Box 3807.

Tel. 5892.

# WRIGHT'S ROPES

H. ALERS HANKEY - - - Sole Agent.



## Company Meetings.

### PREMIER DIAMONDS.

The annual meeting of the Premier (Transvaal) Diamond Mining Co., Ltd., was held on Feb. 23 at the offices, Cullinan Buildings, there being present Sir Thomas Cullinan (chairman), Messrs. S. B. Joel, P. Ross Frames, G. Imroth, J. W. Philip, F. C. Dumat, P. Richardson A. Sprinz, P. Dreyfus, W. H. Mardall, G. W. Hollins, A. A. Auret, W. H. Burrill, J. F. Rutherford, T. Edington, secretary, representing 186,954 shares out of the total issue of 320,000.

#### The Chairman's Speech.

The Chairman said: I have again the pleasure of submitting our annual accounts, covering the period up to 31st October last. The accounts are, as usual, placed before shareholders in a simple form quite easy to follow, so that they leave me very little to say in the way of explanation. I am, however, entirely at your disposal to answer any matters arising therefrom, and which you think require elucidation. Before I proceed let me state that it is to me a great pleasure, and I am sure it must be a pleasure to you all, to see Mr. Joel amongst us. I believe it is the first occasion that he has been able to spare the time from a busy and strenuous life across the water to attend one of our annual meetings. I hope it won't be the last. (Hear, hear.) I turn now to the accounts. You will see that the divisible profit is just a little higher than that for the previous year—£337,311 as against £335,632. Your expenditure and revenue account, No. 1, shows that we have sold something like £100,000 worth more diamonds than last year. These figures do not show much startling progress, but the progress, small as it is, must be a source of satisfaction when you take into consideration that your operations have been carried on during the terrible conflict now involving almost the whole world. The most pleasing feature of all is, if you will turn to table No. 1, that the price per carat is the highest obtained since 1906. As I will have something more to say about the sale of your diamonds later on, I will only add that the stock shown in hand has, since the close of the accounts, been sold at a figure higher even than that disclosed in table No. 1. The expenditure for the year amounts to £207,224. It would be futile to compare this with the figure for the previous year, for, as you know, operations were entirely suspended for the whole period ending 31st October, 1915, whereas during the year just closed work was resumed on a limited scale in January, 1916, and has continued for the rest of the period covered by the accounts. While on the matter of expenditure let me call your attention to the working cost per lead. You will notice this stands at 2s. 7.6d., a matter of 1½d. per lead higher than the cost per lead for the year ended 31st October, 1914. I need hardly remind you, in explanation of this higher figure, that our costs include, in addition to allowances to our men at the front, all the heavy expenditure incidental to re-starting a big concern like the Premier Mine, and it also must necessarily include money spent on a lot of "dead" work, such as dewatering the mine, reorganising the native recruiting system, and other items, all of which must be borne by the year in which they accrue, but considerably benefit future workings.

### The Old Tailings.

Before leaving this rather important table No. 1, I must also draw your attention to the yield column. You will notice there the figure given for the yield per lead is .267, this may be misleading to shareholders unless an explanation is made. The explanation is this, the ground washed during the year included 654,841 loads of old tailings and lumps dumped in the early history of the company, which gave a yield of .404 carats per load. Your directors, at least those who were acquainted with the early work carried out by the company always believed that this old debris heap was a valuable asset. This belief was founded on the fact that the first machinery erected was of a very primitive type and proved inadequate to deal with the clayey ground encountered, and your directors knew that a loss of diamonds under these conditions was bound to take place. Half the ground washed during the year coming from this rich debris heap has consequently given the increased yield in our returns. In addition to treating these old tailings we have, in order thoroughly to test our modern machinery, carried out on a large scale a test of the tailings from the No. 4 gear the last year erected, and we are satisfied that the loss of diamonds now is negligible—the quality also was so poor that it would not pay to attempt to recover them. Dealing now with the mine ground proper, anybody who cares to work it out will see that the yield has fallen to just below .18. The general manager, in his report, gives a perfectly reasonable explanation of the reduction of our average grade, to which I must refer you, but I can add that for the first three months in the company's new financial year the grade is 188, which is a little bit higher than the last figures.

I come now to the profit and loss accounts. You will see that our share of the divisible profit is £134,924—which is carried to the shareholders' appropriation account, and adding the balance brought forward from last year gives the amount of £139,551, which is at your disposal. Your directors have appropriated £100,000 of this amount to pay the accumulated preference dividends Nos. 20 and 21—and after providing for the British and South African income tax a balance of £77,440 is carried forward to the new year. Shareholders, particularly preference shareholders, will note with satisfaction that since the closing of the books two more preference dividends Nos. 22 and 23, have been declared and paid—and just recently your directors have declared and paid the remaining outstanding dividend of 6s. 3d.—thus bringing the preference dividend position up to date. I think it is a matter of congratulation that we have been able, so soon after the starting of operations, to redeem the total obligations to preference shareholders. There remains very little for me to say about the balance sheet except that the funds belonging to the company are very carefully invested. Of the amount of £690,000 appearing therein upwards of £425,000 is invested in the War Loan and British Treasury Bills. These give very good rates of interest, and at the same time help to provide "silver bullets" for the successful prosecution of the war. I think, gentlemen, you will agree, that under prevailing conditions, the accounts reveal a satisfactory position. It would, however, be unwise to let my remarks go unqualified. Our future progress is to a great extent dependent on war conditions. With all efforts in England and elsewhere, concentrated on beating the enemy, it is not surprising that it is be-

coming increasingly difficult to obtain mining supplies, and you are also aware that the existing demand for diamonds largely comes from America, which State has so far not been drawn into the European strife.

### Sale of Diamonds.

Reverting again to the sale of diamonds. Mr. Joel's speech at the meeting of the Johannesburg Consolidated Investment Company, and the chairman's remarks at the annual meeting of the De Beers Company are fresh in your memory. Briefly, when dealing with their diamond interests, the kernel of both these speeches was the benefit to the diamond industry of the policy of controlling both the output and the sale of diamonds. Speaking for myself, and also for my colleagues on the board, I have to say that we are convinced that limitation of output to demand, and the control of the sale of an article of luxury like the diamond, must be to the advantage of all diamond producers. To give practical support to this policy your board has decided to limit the company's output to the capacity of its No. 4 gear. The advantages of this policy are too numerous to weary you with now, but the obvious one is that it must be in the best interests of shareholders to extend the life of the open workings of the mine. This you automatically do by limiting the output as decided on by the board, and instead of the yearly increase in the depth of the mine being 34 feet, it will in future be only 17 feet, which prolongs the life in the open, as far as you and I are concerned, indefinitely. We hope also by the policy of control of sales to gradually increase the price of diamonds to give us a profit at least equal to that yielded by the maximum rate of production before the war. With this end in view the company has, with the approval and consent of the Government, made satisfactory arrangements for the disposal of its diamonds at prices advantageous to the company, and considerably in advance of the prices obtained in the previous years.

### Export Duty.

Since I last addressed you a Diamond Export Duty Act has been passed by Parliament. By the terms of the Act this company will have to pay an extra sum into the coffers of the State, and it is more than probable we will have to pay the full 5 per cent. Although I would rather refrain from offering criticism of the Government's endeavour to gather in new revenue while the present crisis is on, yet this being the only occasion during the year when we can ventilate our grievances I must seize the opportunity to register our protest against what I consider a very unjust law. I am speaking now as a Premier shareholder. When you consider the laws already on the Statute Book, and which apply to the Premier only, I think it is time to protest, and I do protest most strongly against legislation of this nature. It is unfair for the shareholders who have acquired their holding in the company under the contract with the Government, I refer, of course, to Ordinance 66 of 1903, to have to stand by and see their 40 per cent. interest under that Ordinance gradually dwindle through fresh taxation. I think it extremely unjust that our proportion of profits, fixed as it was by that law, can be reduced to benefit the other party to the contract. Surely when Parliament fixed this company's share of the mine profits at 40 per cent. it gave what it deemed the rightful proportion to the owner—is it right to whittle away what it gave by fresh legislation? I think not, and I hope the Minister in charge of the Treasury, so soon as war conditions will allow, will see his way clear to exempt this company from the provisions of his new Act.

It is with extreme regret that I have to record the death of one of my oldest colleagues on the board. I refer to Sir Sigmund Neumann. Sir Sigmund in the early history of the company was the only director with a knowledge of the diamond

trade and his own experience in this and mining matters was always at the company's disposal. To Lady Neuman and the members of the family we tender our sincere sympathy in their irreparable loss. Our sympathies and prayers are also due to the relatives of the brave lads who have made the great sacrifice in the war. Quite a large percentage of our employees have enlisted, and as far as we know some 15 of them have laid down their lives for King and country. To the relations who mourn their loss we extend our deepest sympathy. Our thanks are also due to the manager and staff of the mine, who have successfully carried out their strenuous duties in connection with the restarting of the mine, to our head office staff, and to Mr. Edington, who has had a difficult task in getting things in order after the period the mine was closed down.

The Chairman then moved the adoption of the report and accounts.

### Mr. S. B. Joel.

Mr. Joel said: Your chairman has dealt with the affairs of the company very clearly and exhaustively, and I want to thank him for his kindly references to me in regard to the general policy of the diamond industry. I would like to supplement his remarks with a few observations, as this is the first occasion on which I have had the pleasure of being present at your annual meetings. On former occasions at your gatherings misgivings were expressed in regard to the effect that would follow on my having acquired such an enormous shareholding in your company. It is not necessary for me to contradict these statements—facts speak for themselves. I flatter myself, and I trust you share my views, that my association with this company has been of a most beneficial nature, not only to the company, but also to the whole diamond industry. It is essential in diamond mining to think in money and not in the quantity of diamonds produced. Past experience has proved conclusively that the world spends annually a certain amount of money in diamonds, and this amount increases or diminishes with the rise or fall in the general prosperity of the world. It is, therefore, the business of those concerned in the production and sale of diamonds to so regulate the quantity of diamonds put upon the market as to get the highest price possible for a smaller quantity of these gems rather than give more stones for the gross amount of money available. The past has also taught us that an increase in the price of diamonds, or, in other words, a restricted output, stimulates the desire to possess these much-prized precious stones; and the knowledge that a close control exists, which will tend to enhance the value of diamonds, inspires confidence in the purchasers and makes them regard any money spent in acquiring diamonds in the light of a safe investment which may always be realised without loss and even with the prospect of a substantial profit. In the year 1913 the American demand for diamonds was abnormal in consequence of the proposed

increase in the duty on both rough and cut stones imported into the United States; but as soon as the increased duties were imposed the price of diamonds fell, and the producers found that the output which had been augmented to meet the abnormal demand did not realise more than the gross amount available in normal times, so that towards the end of 1913 and beginning of 1914 the average price per carat in the case of some mines left little or no profit over and above the increased expenditure incurred in the more extensive operations to secure a larger production. This company suffered severely as a consequence of the fall in the value of diamonds, as will be seen on reference to the table on page 12 of the report now in your hands, and the directors immediately realised the truth of the doctrine contained in the words "the higher the fever," and busied themselves in an endeavour to secure co-operation amongst the great producers to limit the output and to control the sale of diamonds.

### The London Conference.

The Government also realised the impending danger to the revenue of the Union and issued invitations to the three largest producers in the Union, and to the German Government, to meet in conference with a view to restricting the output and regulating the price. The conference met in London, and drastic measures were adopted to avert the threatened disaster to the industry, but before effect could be given to the arrangements agreed to, which would have entailed heavy sacrifices on the part of most of the producers, the war broke out, when all demand for diamonds suddenly ceased, with the result that the production became unprofitable and the mines were obliged to suspend operations. About 12 months after, a small demand sprang up which steadily increased and the producers, who held large stocks by reason of the over-production to which I have already referred, were enabled gradually to dispose of their stocks at prices not less than those prevailing before the outbreak of hostilities. This was a most anxious time, but I was enabled, through the large interests I held in the principal mines, to exercise a control of the sales and to regulate judiciously the feeding of the market, that showed signs of expanding with the increasing wealth of the United States and other countries resulting from the war.

### The Restart.

When the stocks became almost depleted and I saw that there was a prospect of the demand being maintained I came out to South Africa, and after conferring with my colleagues arranged that the De Beers, Jagersfontein, and Premier Companies should restart operations on a reduced scale. I may mention that before the

companies had reached the present scale of their operations all stocks had been cleared and the demand at improved prices

I might safely say the best prices that ever obtained was just satisfied by the restricted output. This is the result of control. The position to-day is better than it has ever been in the long history of the diamond industry—a position that could never have been attained but for the influence exercised through my large holdings in all the principal mines. Where fierce controversy raged a few years ago harmony now prevails to the advantage of all those directly interested in the diamond industry and to the benefit of the revenue of the Union, not to mention the men employed in the mines and the commercial community in general.

What the 1914 conference aimed at but failed to accomplish has now been brought about, and I hope I am not indiscreet when I tell you that those charged with the protection of the diamond industry realised the importance of the policy advocated and we have managed during my present visit to establish an almost complete control of the marketing of diamonds, which will enable the producers to make as much or more profit from the restricted output as they did from twice the quantity produced before the war, and at the same time double the lives of the mines.

### Thirty Years' Efforts.

The dreams, the hopes, the efforts of the last 30 years have materialised and the future holds out brighter prospects for the diamond industry than it has ever experienced in the past, but don't forget that this is due to control and control only. Remove control and the whole fabric that it has taken nearly a third of a century to rear will come tumbling about our ears involving the extinction of a great and profitable industry to the detriment of thousands interested in and employed by the industry and naturally also to the State. Control has enabled the companies to pay off arrear preference dividends, has poured unexpected hundreds of thousands into the coffers of the State, holds out prospects of deferred dividends within a period not contemplated when operations were resumed, and promises the Government an ever-welcome increase of revenue from diamonds. I have preached control. I have struggled for control, I have brought about control through the co-operation of my colleagues, and it is now incumbent on those interested in the industry and the Government of the Union, who has in its power since the conquest of German South-West Africa, to maintain and complete control. If this policy is pursued I have no misgivings about the future and we may look forward to a long and prosperous career for the diamond industry. (Applause.)

Mr. Joel concluded by seconding the motion for the adoption of the report, which was then put and carried.

The retiring directors were re-elected, and the auditors reappointed.

P.O. Box 5518.

Telephone 2089.

Telegrams: "REINSTATE."

## THE MINING REAL ESTATE AND INSURANCE AGENCY,

Auctioneers, Brokers & General Agents,

BETTELHEIM BUILDINGS, SIMMONDS STREET

(Opposite A.B.C. BANK.)

Established 1888.

J. E. AZULAY, Manager.

D. S. ESTERHUYSE, Secretary.

Barnato Shares bought and carried with a 20% margin. Other Stocks according to value. Mines and ore of every description bought. Properties financed. Reports from well known mining engineers furnished.

## The Golden Kopje Mines.

The Sinoia correspondent of the *Rhodesia Herald* writes: "From local gossip and advertisements it seems that the mine will be closed down in a few weeks' time. This will be a severe blow to farmers in the vicinity."

**BROAD ROBERTS & CO.,** C/o Von Brandis & Bree Streets, JOHANNESBURG.

Mathematical Instrument and Mechanical Accessories Works.

Electrical and Surveying Instruments, Motor Engine Parts, Magnetos, Meters and Gauges, Munitions, Mica and Emery Manufactory. All Classes of Light Engineering Work.

Phone 2524.

Box 4777.

# SIXTEEN BUTTERS' FILTER PLANTS

AND FOUR EXTENSIONS TO FORMER PLANTS

now operating on the Rand and giving complete satisfaction to everyone concerned.

Full particulars and operating data will be given on application.

50 lb. samples of slime will be tested free of charge to determine its filtering capacity. Estimates for plants, accompanied by complete general arrangement drawing, supplied on short notice. Write us for pamphlet regarding our process.

## CHAS. BUTTERS & CO., LTD.

(INCORPORATED IN ENGLAND)

187, Exploration Building, Johannesburg.

P.O. Box 2652.

Telephone 3701.

Cable Address: "HUBNERITE."

**FRASER & CHALMERS, LTD.,** AGENTS FOR SOUTH AFRICA.



## DICK'S BELTING.

No Belt is a

### DICK'S ORIGINAL BALATA

unless stamped every few feet with the Trade Mark.

FACTORIES: GLASGOW, SCOTLAND.  
PASSAIC, NEW JERSEY, U.S.A.

SOLE AGENT—

## S. P. Ruthven,

3, WINCHESTER HOUSE,

JOHANNESBURG.

BOX 3013.

PHONE 80.

TELEGRAMS: "BELTING."

# EXPLOSIVES

For Mining, Quarrying, Farming, Railway and Irrigation Work.  
"Permitted" Explosives for Coal Mines.

### AGENTS:

LONDON.—CAPE EXPLOSIVES WORKS, LTD., 15, St. Swithin's Lane, E.C.

TRANSVAAL.—REUNERT & LENZ, LTD Box 92, Johannesburg.

RHODESIA.—L. R. FORBES, Box 683, Bulawayo, and Box 427, Salisbury.

KIMBERLEY.—CAPE EXPLOSIVES WORKS LTD., & E. W. TARRY & CO., LTD.

AUSTRALASIA.—KIRK O'BRIEN, Collins House, Collins Street, MELBOURNE.

### MANUFACTURERS of

Blasting Gelatin, Gelignites, Ligdyn Dynamites, "Cape Brand" Subsoil Dynamite Fuse Igniters.

Bi-Sulphate of Soda, Sulphuric and Nitric Acids, Sulphur & Sulphur Lime Solution Pure Glycerine.

Fuse, Detonators and Electric Blasting Accessories Stocked.  
Nitrate of Soda.

## CAPE EXPLOSIVES WORKS

LIMITED,

P.O. DYNAMITE FACTORY,

SOMERSET WEST, CAPE PROVINCE.



Ingersoll-Rand  
Co.,

Exploration Bldg.,  
JOHANNESBURG.

THE  
**South African**  
**MINING JOURNAL**  
WITH WHICH IS INCORPORATED  
"The South African Mines, Commerce & Industries"  
ESTABLISHED 1891 PUBLISHED EVERY SATURDAY

Ingersoll-Rand  
Co.,

Exploration Bldg.,  
JOHANNESBURG.

VOL. XXVI., PART II No. 1327 THE SOUTH AFRICAN MINING JOURNAL. MAR. 3, 1917 [WEEKLY, PRICE 6d.]

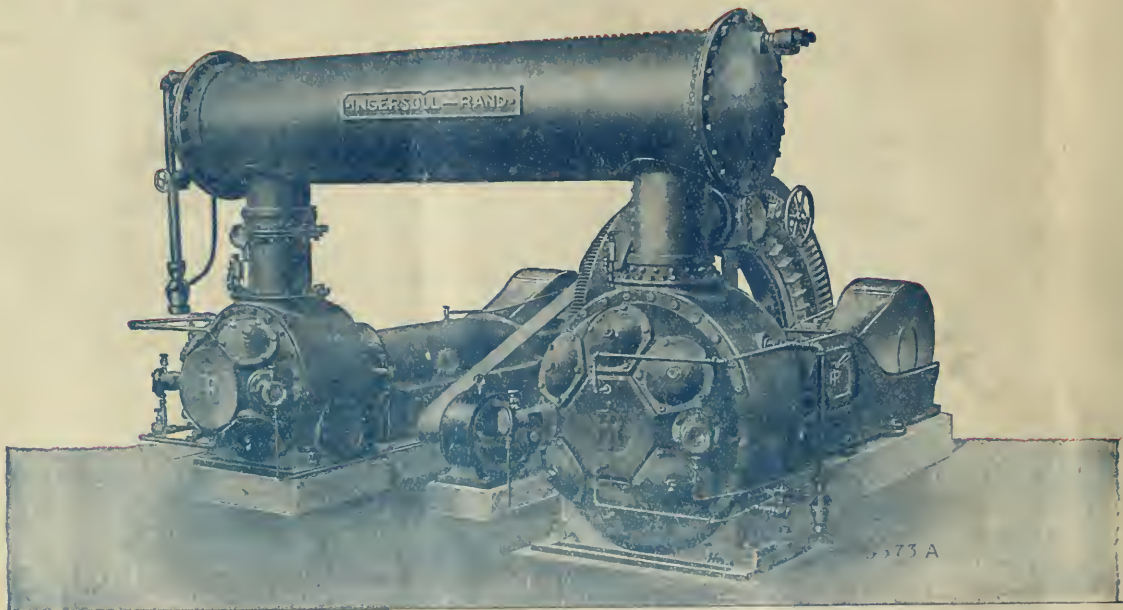
W. L. SAUNDERS, Chairman of Board.  
W. R. GRACE, V.-P. and Treas.

F. A. BRAINERD, Secy.

GEORGE DOUBLEDAY, President.

J. H. JOWETT, Gen. Sales Mngr.

HIGHEST EFFICIENCY  
**AIR COMPRESSORS.**



Type PRE Compressor at Modder "B".

**ACTUAL TEST** after installation at Mine shows 68%  
Overall Efficiency at 80 lbs. discharge pressure.

**INGERSOLL-RAND CO.**

Exploration Buildings.

Johannesburg.